A new ORCHARD, and GARDEN:

OR,

The best way for Planting, Grafting, and to make any ground good, for a rich Orchard: Particularly in the North, and generally for the whole Common-wealth, as in nature, reason, situation, and all probability, may and doth appeare.

With the Country-housewifes Garden for Herbs of common use: their virtues, Seasons, Profits, Ornaments, variety of Knots, Models for Trees, and Plots for the best ordering of Grounds and Walkes.

AS ALSO,

The Husbandry of Bees, with their severall Uses and Annoyances.

All being the experience of Forty and eight yeares labour, and now the second time corrected and much enlarged, by WILLIAM LAWSON.

Whereunto is newly added the Art of Propagating Plants; with the true ordering of all manner of Fruits, in their gathering, carrying home, and preservation.

Skill and paine, being fruitfull gains.

Nemo sibi natus.

London, Printed by *W. Wilson*, for *E. Brewster*, and *George Sawbridge*, at the Bible on Ludgate-Hill, neere *Fleet-bridge*. 1653.

To the Right Worshipfull Sir HENRY BELLOSES, Knight and Baronet.

Worthy Sir,

WHen in many yeers by long experience I had furnished this my Northern Orchard and Country-Garden with needfull Plants and usefull Herbs, I did impart the view thereof to my friends, who resorted to me to confer in matters of that nature; they did see it, and seeing it, desired it: and I must not deny now the publishing of it, (which then I allotted to my private delight) for the publike profit of others. Wherefore, though I could plead Custom, the ordinary excuse of all writers, to chuse a Patron and protector of their Works, and so shroud my selfe from scandall under your ho-

nourable favour; yet have I certaine reasons to excuse this my presumption: First, the many courtesies you have vouchsafed me. Secondly, your delightfull skill in matters of this nature. Thirdly, the profit which I received from your learned Discourse of Fruit-Trees. Fourthly, your animating and assisting of others to such endeavours. Last of all, the rare worke of your own in this kind: All which to publish under your protection, I have adventured (as you see.) Vouchsafe it therefore entertainment, I pray you, and I hope you shall find it not the unprofitablest servant of your retinue. For when your serious employments are over-passed, it may enterpose some commodity, and raise your contentment out of variety.

Your Worships

most bounden,

WILLIAM LAWSON.

THE

THE PREFACE,
To all well minded.

ART hath her first originall out of *Experience*, which therfore is called The School-mistris of Fools, because she teacheth infallibly, and plainly, as drawing her knowledg out of the course of *Nature*, (which never fails in the general) by the senses, feelingly apprehending, and comparing, (with the help of the *Mind*) the workes of *Nature*; and as in all other things naturall, so especially in Trees. For what is *Art* more then a provident and skilfull Correctrix of the faults of *Nature* in particular works, apprehended by the *Senses*? As when good ground naturally brings forth Thistles, trees stand too thick, or too thin, or disorderly, or (without dressing) put forth unprofitable Suckers, and such-like; all which and a thousand more, *Art* reformeth, being taught by experience: and therefore must we count that art the surest, that stands upon Experiment all Rules, gathered by the rule of Reason (not Conceit) of all other rules the surest.

Whereupon have I, of my meer and sole Experience, without respect to any former written Treatise, gathered these Rules, and set them down in writing, not daring to hide the least talent given me of my Lord and Master in heaven. Neither is this injurious to any, though it differ from the common opinion in divers poynts, to make it known to others, what good I have found out in this faculty by long tryall and experience. I confesse freely my want of curious skill in the art of Planting: and I admire and praise Plinie, Aristotle, Virgil, Cicero, and

many others, for wit and judgment in this kind, and leave them to their times, manner, and ſeveral Countries.

I am not determined (neither can I worthily) to ſet forth the praiſes of this Art; how ſome, and not a few, even of the beſt, have accounted it a cheif part of earthly happineſſe, to have fair and pleaſant Orchards, as in Heſperia *and* Theſſaly; *how all with one conſent agree, that it is a cheif part of Husbandry, (as* Tully de ſenectute) *and Husbandry maintains the world: how antient, how profitable, how pleaſant it is; how many ſecrets of nature it doth containe, how loved, how much praiſed in the beſt places, and of the beſt: This hath been done by many: I onely aim at the common good. I delight not in curious conceits, as planting and graffing with the root upwards, inoculating Roſes on Thorns, and ſuch-like; although I have heard of divers, proved ſome, and read of more.*

The Stationer hath (as being moſt deſirous, with me, to further the common good) beſtowed much coſt and care in having the Knots and Models by the beſt Artizan cut in great variety, that nothing might be any way wanting to ſatiſfie the curious deſire of thoſe that would make uſe of this Book.

And I ſhew a plain and ſure way of planting, which I have found good by 48 yeers (and more) experience in the North part of England. *I prejudicate and envy none; wiſhing yet all to abſtaine from maligning that good (to them unknown) which is well intended. Farewell.*

Thine, for thy good,

W. L.

THE

THE BEST, SVRE AND READIEST WAY TO MAKE A GOOD *Orchard* and *Garden*.

CHAP. I.

Of the Gardner, and his Wages.

WHosoever desireth and indevoureth to have a pleasant and profitable Orchard, must (if he be able) provide himselfe of a Fruitterer, religious, honest, skilfull in that faculty, and therewithall painfull. By religious, I mean (because many think religion but a fashion or custome to goe to Church) maintaining, and cherishing things religious: as Schooles of learning, Churches, Tythes, Church goods and rights, and above all things, Gods word, and the preachers thereof, so much as he is able, practising prayers, comfortable conference, mutuall instruction to edifie, almes, and other works of charity, and all out of a good conscience. Religious.

Honesty in a Gardner, will grace your Garden, and all your house, and help to stay unbridled Servingmen, giving offence to none, not calling your name into question by dishonest acts, nor infecting your family by evill counsell or example. For there is no plague so infectious as Popery and knavery, he will not purloine your profit, nor hinder your pleasures. Honest.

Concerning his skill, he must not be a Sciolist, to make new or take in hand that which he cannot performe, especially in so weighty a thing as an orchard: than the which there can be no humane thing more excellent, either for pleasure or profit, as shall (God willing) be proved in the treatise following. And what an hinderance shall it be, not onely to the owner, but to the com- Skilfull.

mon

mon good, that the unspeakable benefit of many hundred yeares shall be lost, by the audacious attempt of an unskilfull Arborist?

Painfull. The Gardner had not need to be an idle or lazie Lubber, for so your Orchard, being a matter of such moment, will not prosper, there will ever be some thing to doe, Weeds are alwaies growing, the great mother of all living creatures, the Earth, is full of seed in her bowels, and any stirring gives them heat of Sunne, and being laid near day, they grow: Moales work daily, though not alwaies alike, Winter hearbs at all times will grow (except in extreame frost) In winter your trees and hearbs would be lightned of snow, and your allies cleansed: drifts of Snow will set Deere, Hares, and Conyes, and other noysome beasts over your walles and hedges into your Orchard. When Summer cloaths your borders with greene and prickled colours, your Gardner must dresse his hedges, and antick workes: watch his bees, and hive them: distill his Roses and other hearbs. Now begin Summer fruits to ripe, and crave your hand to pull them. If he have a Garden (as he must needs) to keep, you must needs allow him good help, to end his labours which are endlesse, for no one man is sufficient for these things.

Wages. Such a Gardner as will conscionably, quietly and patiently, travell in your Orchard, God shall crowne the labours of his hands with joyfullnesse, and make the clouds drop fatnesse upon your trees, he will provoke your love, and earne his wages, and fees belonging to his place. The house being served, fallen fruite, superfluity of hearbs, and flowres, seeds, graffes, sets, and beside all other of that fruit which your bountifull hand shall reward him withall, will much augment his wages, and the profit of your bees will pay you back againe.

If you be not able, nor willing to hire a gardner, keep your profits to your self, but then you must take all the paines: and for that purpose (if you want this faculty) to instruct you, have I undertaken these labours, and gathered these rules, but chiefly respecting my countries good.

CHAP.

CHAP. 2.
Of the ſoyle.

FRuit trees moſt common, and meeteſt for our Northern countries: (as Apples, peares, Cherries, Filberds, red and white plummes, Damſons, Bullis,) for we meddle not with Apricocks nor Peaches nor ſcarcely with Quinces, which will not like in our cold parts, unleſſe they be helped with ſome reflex of the Sun, or other like meanes, nor with buſhes bearing berries, as barberries, Gooſe-berries or Groſers, Raſpe-berries, and ſuch like, though the Barbery be wholeſome, and the tree may be made great: doe require (as all other trees doe) a black, fat, mellow, clean and well tempered ſoyle, wherein they may gather plenty of good ſap. Some think the Haſell would have a chanily rocke, and the ſallow, and eller a wateriſh mariſh. The ſoyle is made better by delving and other meanes, being well melted, and the wildneſſe of the earth and weeds (for every thing ſubject to man, and ſerving his uſe (not well ordered) is by nature ſubject to the curſe,) is killed by froſts and drought by fallowing and laying on heaps, and if it be wild earth, with burning. Kinds of trees. Soyle.

If your ground be barren (for ſome are forced to make an Orchard of barren ground) make a pit three quarters deep, and two yards wide, and round in ſuch places where you would ſet your trees, and fill the ſame with fat, pure, and mellow earth, one whole foot higher then your ſoyle, and therein ſet your plant. For who is able to manure a whole Orchard plot, if it be barren? But if you determine to manure the whole ſite, this is your way: dige a trench halfe a yard deepe, all along the lower (if there be a lower) ſide of your Orchard plot, caſting up all the earth on the inner ſide, and fill the ſame with good, ſhort, hot, and tender muck, and make ſuch another trench, and fill the ſame as the firſt, and ſo the third, and ſo throughout your ground: and by this meanes your plot ſhall be fertile for your life. But be ſure you ſet your trees neither in dung, nor barren earth. Barren earth.

Your ground muſt be plaine, that it may receive, and keep moyſture, not onely the raine falling thereon, but alſo water caſt upon it, or deſcending from higher ground by ſluices, Conduits Plaine.

&c. For I account moiſture in ſummer very needfull in the ſoyle of trees, and drought in winter: provided, that the ground be neither boggy, nor the inundation be paſt 24 houres at any time, and but twice in the whole Summer, and ſo oft in the winter. Therefore if your plot be in a banke, or have a deſcent, make trenches by degrees, Allyes, walkes, and ſuch like, ſo as the water may be ſtrayed from paſſages; and if too much water be any hinderance to your walkes (for dry walkes doe well become an Orchard, and an Orchard them:) raiſe your walks with earth firſt, and then with ſtones as big as walnuts, and laſtly, with gravell. In Summer you need not doubt too much water from heaven, either to hurt the health of your body, or your trees. And if over-flowing moleſt you after one day, avoid it then by deep trenching.

Moyſt.

Some for this Purpoſe dig the ſoyle of their Orchard, to receive moyſture, which I cannot approve: for the roots with digging are oftentimes hurt, and eſpecially being digged by ſome unskilfull ſervant: for the Gardiner cannot doe all himſelfe: and moreover, the roots of Apples and Pears, being laid neere day, with the heat of the Sun, will put forth ſuckers, which are a great hinderance, and ſometimes with evill guiding, the deſtruction of trees, unleſſe the delving be very ſhallow, and the ground laid very levell again. Cherries and Plums, without delving, will hardly or never (after twenty yeares) be kept from ſuch ſuckers, nor Aſps.

Graſſe.

Graſſe alſo is thought needfull for moiſture, ſo you let it not touch the roots of your trees; for it will breed moſſe: and the beal of your tree neer the earth, would have the comfort of the Sun and air.

Some take their ground to be too moiſt when it is not ſo, by reaſon of water ſtanding thereon; for except in ſowre marſhes, ſprings, and continuall over-flowings, no earth can be too moiſt. Sandy and fat earth will avoid all water falling, by receit: indeed a ſtiff clay will not receive the water, and therefore if it be graſſie or plain, eſpecially hollow, the water will abide, and it will ſeeme waterish, when the fault is in the want of manuring, and other good dreſſing.

This plainneſſe which we require, had need be naturall, becauſe to force an uneven ground, will deſtroy the fatneſſe: for every

ſoyle

ſoyle hath his cruſt next day, wherein trees and hearbs put their roots, and whence they draw their ſap, which is the beſt of the ſoile, and made fertile with heat and cold, moiſture and drought, and under which, by reaſon of the want of the ſaid temperature by the ſaid four qualities, no tree nor hearb (in a manner) will or can put root: as may be ſeen, if in digging your ground, you take the weeds of moſt growth, as graſſe or docks (which will grow, though they lie upon the earth bare,) yet bury them under the cruſt, and they will ſurely dye and periſh, and become manure to your ground. This cruſt is not paſt 15 or 18 inches deep in good ground, or other grounds leſſe. Hereby appears the fault of forced plains, *viz.* your cruſt in the lower parts is covered with the cruſt of the higher parts, and both with worſe earth: your hights having the cruſt taken away, are become meerly barren: ſo that either you muſt force a new cruſt, or have an evill ſoyle. And be ſure you levell, before you plant, leaſt you bee forced to remove, or hurt your plants by digging, and caſting among their roots. Your ground muſt be cleared, as much as you may, of ſtones and gravell, walls, hedges, buſhes, and other weeds.

Naturally plaine.

Cruſt of the earth.

CHAP. III.

Of the Site.

THere is no difference, that I find, betwixt the neceſſity of a good ſoyl, and a good Site of an Orchard. For a good ſoil (as is before deſcribed) cannot want a good Site; and if it do, the fruit cannot be good; and a good ſite will much amend an evill ſoyle. The beſt ſite is in low grounds, and (if you can) neer unto a River. High grounds are not naturally fat.

Low and neere a River.

And if they have any fatneſſe by mans hand, the very deſcent in time doth waſh it away, Tis with grounds in this caſe, as it is with men in a common wealth: Much will have more; and once Poor, ſeldome or never rich. The rain will ſcind and waſh, and the wind will blow fatnes from the hights to the hollows, where it will abide, and fatten the earth, though it were barren before.

Hence it is, that we have ſeldome any plain grounds, and low, barren; and as ſeldome any hights naturally fertile. It is

unspeakable, what fatnesse is brought to low grounds by inundations of waters; neither did I ever know any barren ground in a low plaine by a River side, The goodnesse of the soil in *Howle* or *Hollowdernesse* in *York-shire*, is well knowne to all that know the River *Humber*, & the huge bulks of their Cattle there. By estimation of those that have seen the low grounds in *Holland*, and *Zealand*,, they fare surpasse most countries in *Europe* for fruitfulnesse, and onely because they lye so low. The world cannot compare with *Egypt* for fertility, so far as *Nilus* doth overflow his banks. So that a fitter place cannot be chosen for an Orchard, then a low plain by a River side. For besids the fatnesse which the water brings, if any cloudy mist or raine be stirring, it commonly fals down to, and follows the course of the River. And where see we greater trees of bulk and bough, then standing on, or neer the water side? If you aske why the Plaines in *Holdernes* and such Countries, are destitute of woods: I answere, that men and cattle (that have put trees thence, from out of plains to void corners) are better then trees. Neither are those places without trees. Our old fathers can tell us how woods are decayed, and people in the roome of trees multiplyed. I have stood somewhat long in this poynt, because some do condemn a moist soil for fruit trees.

Psal. 1. 3. Ezek. 17. 8. Eccles. 39. 17.

Mr. Markham.

A low ground is good to avoid the danger of windes, both for shaking down your unripe fruit. Trees (the most that I know) being loaden with wood, for want of proyning, and growing high, by the unskilfullnesse of the Arborist, must needs be in continuall danger of the South West, West, and North-west winds, especially in September and March, when the ayr is most temperate from extreame heat and cold, which are deadly enemies to great winds. Wherefore chuse your ground low: Or if you be forced to plant in a higher ground, let high and strong walls, houses and trees, as wall-nuts, Plane-trees, Oaks and Ashes, placed in good order, be your fence for Winds.

Windes. Chap. 13.

The sucken of your dwelling house, descending into your Orchard, if it be cleanly conveyed, is good.

The Sun, in some sort, is the life of the world: it maketh proud grouth, and ripens kindly and speedily, according to the golden Tearme, *Annus fructificat, non tellus*. Therefore in the

Sun.

Countries

Countries neerer approching the Zodiack, the Suns habitation, they have better, and sooner ripe fruit, then we that dwell in these frozen parts.

This provoketh most of our great Arborists to plant Apricocks, Cherries, & Peaches, by a wall, and with tacks, & other meanes to spread them upon, and fasten them to a wall, to have the benefit of the immoderate reflex of the Sun, which is commendable, for the haveing of fair, good, and soone ripe fruit. But let them know, it is more hurtfull to their trees then the benefit they reap thereby, as not suffering a tree to live the tenth part of his age, it helps Gardeners to work. For first, the wall hinders the roots; because into a dry and hard wall of earth or stone, a tree will not, nor cannot put any root to profit, but especially it stops the passage of the sap, whereby the Bark is wounded, and the wood and disseases grow, so that the tree becomes short of life. For as in the body of a man, the leaning or lying on some member, whereby the course of blood is stopt, makes that member as it were dead for the time, till the blood returne to his course, and I think, if that stopping should continue any time, the member would perish for want of blood, (for the life is in the blood) and so indanger the body: so the sap is the life of the tree, as the blood is to mans body: neither doth the tree in winter (as is supposed) want his sap, no more then mans body his blood, which in winter, and time of sleep, draws inward: so that the dead time of winter, to a tree, is but a night of rest: for the tree at all times, even in winter, is nourish'd with sap and grouth as well as mans body. The chilling cold may well some little time stay or hinder the proud course of the sap, but so little and so short a time, that in calm and mild seasons, even in the depth of winter, if you mark it, you may easily perceive the sap to put out, and your trees to increase their Buds which were formed in the Summer before, and may easily be discerned; for leaves fall not off, till they be thrust off with the knots or Buds: whereupon it comes to passe, that trees cannot bear fruit plentifully two years together, and make themselves ready to Blossom against the seasonableness of the next spring.

Trees against a wall.

And if any frost be so extreame, that it stay the sap too much, or too long, then it kils the forward fruit in the Bud, and some-

times the tender leaves and twigs, but not the tree: Wherefore, to returne, it is perillous to ſtop the ſap. And where, or when did you ever ſee a great tree packt on a wall? Nay, who did ever know a tree ſo unkindly ſplat, come to age? I have heard of ſome, that out of their imaginary cunning, have planted ſuch trees, on the North ſide of the wall, to avoid drought: but the heat of the Sun is as comfortable (which they ſhould have regarded) as the drought is hurtfull. And although water is a ſoveraigne remedy againſt drought, yet want of Sun is no way to be helped. Wherefore, to conclude this chapter, let your ground lie ſo, that it may have the benefit of the ſouth and weſt Sun, and ſo low and cloſe, that it may have moiſture, and increaſe his fatneſſe, (for trees are the greateſt ſuckers and pillers of the earth) and (as much as may be) free from great winds.

CHAP. III.

Of the Quantity.

IT would be remembred, what a benefit riſeth, not onely to every particular owner of an Orchard, but alſo to the common wealth by fruit, as ſhall be ſhewed in the ſixteenth chapter (God willing) whereupon muſt needs follow, the greater the Orchard is (being good, & well kept) the better it is: for of good things, being equally good, the biggeſt is the beſt. And if it ſhall appear, that no ground a man occupieth, (no, not the Corn field) yeeldeth more gaine to the purſe, and houſe-keeping (not to ſpeak of the unſpeakable pleaſure) quantity for quantity, then a good Orchard, (beſides, the coſt in planting and dreſſing an Orchard is not ſo much by far, as the labour and ſeeding of your Corn-fields, nor for durance of time comparable, beſides the certainty of the one before the other) I ſee not how any labour or coſt in this kind can be idly or waſtfully beſtowed, or thought too much. And what other thing is a Vineyard, in thoſe Countries where Vines do thrive, then a large Orchard of trees bearing fruit? or what pifference is there in the juice of the Grape, and our ſider and perry, but the goodneſſe of the ſoil and clime where they grow? which maketh the one more ripe, and ſo more pleaſant then the other. Whatſoever can be ſaid for

Orchard as good as a Corne-field.

Compared with a Vineyard.

the

the benefit rising from an Orchard, that makes for the largneſs of the orchards bounds. And me thinks they doe preposterously, that beſtow more coſt and labour, and more ground in and upon a Garden, then upon an orchard, whence they reap and may reap both more pleaſure and more profit, by infinite degrees. And further, that a garden never ſo freſh, and fair, and well kept, cannot continue without both renewing of the earth and the hearbs often, in the ſhort and ordinary age of a man: whereas your Orchard well kept, ſhall dure divers hundred yeeres, as ſhall be ſhewed *chap* 14. In a large orchard there is much labour ſaved, in fencing and otherwiſe: for three little orchards, or a few trees, being in a manner all out-ſides, are ſo blaſted and dangered, and commonly in keeping neglected, and require a great fence; whereas in a great orchard, trees are a mutuall fence one to another, and the keeping is regarded; and leſſe fencing ſerves ſix acres together, then three in ſeverall incloſures. Compared with a Garden.

Now what quantity of ground is meeteſt for an orchard can no man preſcribe, but that muſt be left to every mans ſeveral judgement, to be meaſured according to his ability & will, for other neceſſaries beſides fruit muſt be had, and ſome are more delighted with orchards then others. What quantity of ground.

Let no man, having a fit plot, plead poverty in this caſe; for an orchard one planted, will maintain it ſelf, and yeeld infinite profit beſide. And I am perſwaded, that if men did know the right and beſt way of planting, dreſſing and keeping trees, and felt the profit and pleaſure thereof, both they that have no orchards, would have them, and they that have orchards would have them larger, yea fruit trees in their hedges, as in Worceſter-ſhire, &c. And I think, the want of planting is a great loſſe to our common wealth, and in particular, to the owners of Lordſhips, which Landlords themſelves might eaſily amend, by granting longer time and better aſſurance to their tenants, who have taken up this Proverb, *Boteh and ſit, Build and flit*: for who will build or plant for another mans profit? Or the Parliament might injoyne every occupier of grounds to plant and maintain for ſo many acres of fruitfull ground, ſo many ſeverall trees, or kinds of trees for fruit. Thus much for quantity. Want is no hindrance. How Lardlords by their Tenants may make flouriſhing Orchards in England.

CHAP.

A, All theſe ſquares muſt bee ſet with trees, the Gardens and other ornaments muſt ſtand in ſpaces betwixt the trees, & in the borders and fences.

B. Trees 20. yards aſunder.
C. Garden Knots.
D. Kitchen Garden.
E. Bridge.
F. Conduit.
G. Staires.

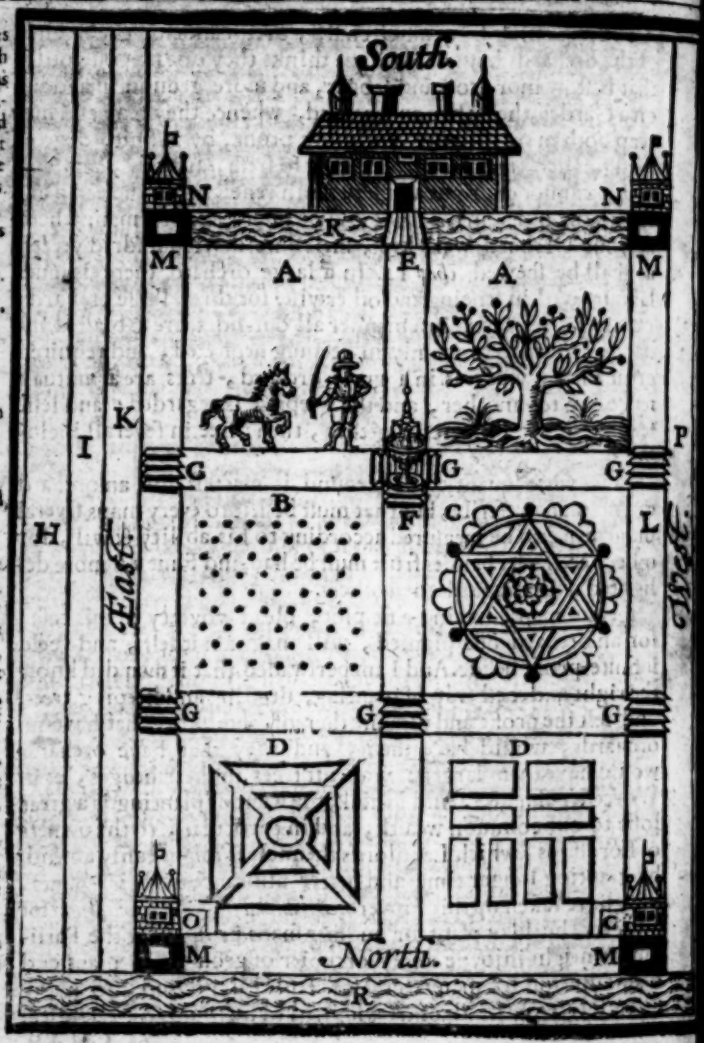
H. Walkes ſet with great wood thick.
I. Walkes ſet with great wood round about your Orchard.

K. The out fence.
L. The out fence ſet with ſtone fruit.

M. Mount. To force earth for a mount, or ſuch like, ſet it round with quick, and lay boughes of trees ſtrangely intermingled, the tops inward, with the earth in the middle.

N. Still-houſe.
O. Good ſtanding for Bees, if you have an houſe.

P. If the river run by your doore, and under your mount, it will be pleaſant.



CHAP. V.
Of the Form.

The goodneſſe of the ſoil and ſite, are neceſſary to the well-being of an Orchard ſimply; but the forme is ſo far neceſſary, as the owner ſhall think meet. For that kind of form where-with every particular man is delighted, we leave it to himſelfe, *Suum cuique pulchrum*. The forme that men like in generall, is a ſquare: for although roundneſſe be *forma perfectiſſima*, yet that principle is good, where neceſſity by art doth not force ſome other form. If within one large ſquare the Gardiner ſhall make one round Labyrinth or Maze with ſome kind of Berries, it will grace your forme, ſo their be ſufficient roomth left for walkes, ſo will four or more round knots do, for it is to be noted that the eye muſt be pleaſed with the forme. I have ſeene ſquares riſing by degrees with ſtayes from your houſe-ward, according to this forme which I have, *Creſſa quod aiunt Minerva*, with an unſteady hand, rough hewen: for in forming Countrie gardens, the better ſort may uſe better formes, and more coſtly worke. What is needfull more to be ſaid, I referre that all (concerning the form) to the Chapter 17. of the Ornaments of an Orchard.

The uſuall forme is a ſquare.

CHAP. VI.
Of Fences.

ALL your labour paſt and to come about an Orchard is loſt, unleſſe you fence well. It ſhall grieve you much to ſee your young ſets rubd looſe at the rootes, the bark pild, the boughs and twigs cropt, your fruit ſtolne, your trees broken, and your many years labours and hopes deſtroyed, for want of fences. A chiefe care muſt be had in this point: you muſt therefore plant in ſuch a ſoile, where you may Provide a convenient, ſtrong, and ſeemly fence. For you can Poſſeſſe no goods, that have ſo many enemies as an orchard, looke Chapter 13. Fruits are ſo delightſome, and deſired of ſo many (nay in a manner of all) and yet few will be at coſt and take paines to provide them. Fence well therefore, let your plot be wholly in your owne power, that you

Effects of evill fencing.

Let the fence be your owne.

make all your fence your selfe: for neighbours fence is none at all, or very carelesse. Take heed of a doore or window, (yea of a wall) of any other mans into your orchard: yea, though it be nailed up, or the wall be nigh, for perhaps they will prove theeves.

Kinds of fences: earthen walles.

All fences commonly are made of earth, Stone, Bricke, wood, or both earth and wood. Dry wall of earth, and dry ditches are the worst fences save pales or railes, and doe wast the sooneſt, unlesse they be well cope with Gloce and morter, whereon at Michaell-tide it will be good to sow wall-flowers, commonly called Bee flowers, or winter Gilly-flowers, because they will grow (though among stones) and abide the strongest frost and drought continually greene and flowring even in winter, and have a pleasant smell, and are timely, (that is, they will flower the first and last of flowers) and are good for Bees. And your earthen wall is good for bees dry and warme: but these fences are both unseemly, will to repaire, and onely for need, where stone or wood cannot be had. Whosoever makes such walls, must not pill the ground in the Orchard, for getting earth, nor make any pits or hollowes, which are both unseemly and unprofitable: old dry earth mixt with sand is best for these. This kind of wall will soone decay, by reason of the trees which grow neer it, for the roots and boals of great trees, will increase, undermine, and over-turne such walls, though they were of stone, as is apparent by ashes, Roun-trees, Burt-trees, and such like, carried in the chat, or berry, by birds into stone walls.

Pale and Raile.

Fences of dead wood, as pales, will not last, neither will railes either last or make good fence.

Stone walls.

Stone walls (where stone may be had) are the best of this sort, both for fencing, lasting, and shrouding of your young trees, but about this you must bestow much Paines and more cost, to have them handsome, high and durable.

Quicke wood and Moates.

But of all other (in mine opinion) Quickwood and moates or ditches of water, where the ground is levell, is the best fence. in unequall grounds, which will not keep water, there a double ditch may be cast, made streight and levell on the top, two yards broad for a fair walk, five or six foot higher then the soil, with a gutter on either side, two yards wide, and four foot deep, set without with three or foure cheese of thornes and within with cherry,

Plumme

Plummes, Damſon, Bullys, Filberds, (I lord love thoſe trees better for their fruit, and as well for their forme, as Privit,) for you may make them take any forme. And in every corner, (and middle if you will) a mount would be raiſed, whereabout the wood may claſpe, poudered with wood-binde, which will make with dreſſing a faire, pleaſant, profitable, and ſure fence. But you muſt be ſure that your quick thorns either grow wholly, or that there be a ſupply betime, either planting new, or plaſhing the old where need is. And aſſure your ſelfe, that neither wood, ſtone, earth, nor water, can make ſo ſtrong a fence, as this ſeven years grouth.

Moates, Fiſh ponds, and (eſpecially at one ſide a River) within and without your fence, will afford you fiſh, fence, and moiſture to your trees, and pleaſure alſo, if they be ſo great and deep that you may have Swans, and other water birds, good for devouring of vermine, and boat for many good uſes. Moates.

It ſhall hardly availe you to make any fence for your Orchard, if you be a niggard of your fruit. For as liberality will ſave it beſt from noiſome neighbours, (liberalitie I ſay is the beſt fence) ſo juſtice muſt reſtraine rioters. Thus when your ground is tempered, ſquared, and fenced, it is time to provide for planting.

CHAP. VII

Of Sets.

THere is not one point (in my opinion) about an Orchard more to be regarded, then the choiſe getting and ſetting of good plants, either for readineſſe of having good fruit, or for continuall laſting: for whoſoever ſhall fail in the choiſe of good ſets, or in getting, or gathering, or ſetting his plants, ſhall never have a good or laſting Orchard. And I take want of ſkill in this faculty, to be a cheif hinderance to the moſt Orchards, and to many for having Orchards at all.

Some for readineſſe uſe ſlips, which ſeldome take root, and if they doe take, they cannot laſt, both becauſe their root having a maine wound will in ſhort time decay the body of the tree: and beſides, that roots being ſo weakly put, are ſoone nipt with drought or froſt. I could never ſee (lightly) any ſlip, but of apples onely, ſet for trees. Slips.

Bur-knot. A Bur-knot kindly taken from an apple-tree, is much better and ſurer. You muſt cut him cloſe at the root end, an handfull under the knot; (ſome uſe in Summer about Lammas to circumciſe him, and put earth to the knots with hay-roaps, and in winter cut him off and ſet him, (but this is curioſity needleſſe, & danger with removing and drought) and cut away all his twigs ſave one, the moſt principall, which in ſetting you muſt leave above the earth, burying his trunck in the cruſt of the earth for his root. It matters not much what part of the bough the twig grows out of. If it grow out of, or neer the root end, ſome ſay ſuch an apple will have no core nor kirnel. Or if it pleaſe the planter, he may let his bough be crooked, and leave out his top end one foot, or ſomewhat more, wherein will be good grafting; if either you like not, or doubt the fruit of the bough, (for commonly your bur-knots are Summer fruit) or if you think he will not, cover his wound ſafely.

Uſuall ſets. The moſt uſuall kind of ſets, are plants with roots growing, of kernels of apples, Pears, and Crabbs, or ſtones of Cherries, Plums, &c. removed out of a nurſery, wood, or other Orchard, into, and ſet in your Orchard in due places. I grant this kind to be

Maine roots cut. better then either of the other by much, as more ſure and more durable. Herein you muſt note, that in ſets ſo removed, you get all the roots you can, and without bruiſing of any. I utterly diſlike the opinion of thoſe great gardners, that following their books, would have the maine roots cut away: for tops cannot

Slow ſets removed. grow without roots. And becauſe none can get all the roots, and removal is an hinderance, you may not leave on all tops, when you ſet them: For there is a proportion betwixt the top and root of a tree, even in the number (at leaſt) in the grouth. If the roots be many, they will bring you many tops, if they be not hindered. And if you uſe to ſtow or top your tree too much or too lowe, and leave no iſſue, or little for ſap, (as is to be ſeen in your hedges) it will hinder the grouth of roots and boal, becauſe ſuch a kind of ſtowing is a kind of ſmothering or choaking the ſap. Great wood, as Oak, Elm, Aſh, &c. being continually kept down with ſheers, knife, ax, &c. neither boal nor root will thrive, but as an hedg or buſh. If you intend to graffe in your ſet, you may cut him cloſſer with a greater wound, and neerer the earth with

within a foot or two, becauſe the great ſo grafts will cover his wound. If you like his fruit, and would have him to be a tree of himſelfe, be not ſo bold. This I can tell you, that though you do cut his top cloſe, and leave nothing but his bulke, becauſe his roots are few, if he be (but little) bigger then your thumb (as I wiſh all plants removed to be) he will ſafely recover his wound within ſeven yeers, by good guidance, that is, if the next time of dreſſing, immediately above his uppermoſt ſprig, you cut him off aſlope cleanly, ſo that the ſprig ſtand on the back ſide, (and if you can, Northward, that the wound may have the benefit of the Sun) at the upper end of the wound; and let that ſprig one-ly be the boal. And take this for a generall rule; Every young plant, if he thrive, will recover any wound above the earth, by good dreſſing, although it be to the one halfe, and to his very heart. This ſhort cutting at the remove, ſaves your plants from wind, and need the leſſe or no ſtaking. I commend not lying or leaning of trees againſt holds or ſtays; for it breeds obſtruction of ſap, and wounds incurable. All removing of trees as great as your arm, or above, is dangerous; though ſometime ſuch will grow, but not continue long, becauſe they be tainted with deadly wounds, either in the root or top: (and a tree once thorowly tainted, is never good.) And though they get ſome hold in the earth with ſome leſſer taw or taws, which give ſome nouriſhment to the body of the tree; yet the heart being tainted, he will hardly ever thrive; which you may eaſily diſcern by the blackneſſe of the boughs at the heart, when you dreſſe your trees. Alſo, when he is ſet with more tops then the roots can nouriſh, the tops decaying, blacken the boughs, and the boughs the arme, and ſo they boil at the very heart. Of this taint in the removall, if it kill not preſently, but after ſome ſhort time, it may be diſcerned by blackneſſe or yellowneſſe in the bark, and a ſmall hungred leaf. Or if your removed plant put forth leaves the next and ſecond Summer, and little or few ſpraſes, is a great ſign of a taint, and next years death. I have known a tree tainted in ſetting, yet grow, and beare bloſſomes for divers years; and yet for want of ſtrength could never ſhape his fruit.

Generall rule.

Tying of trees.

Generall rule.

Signes of diſeaſes. chap. 13.

Next unto this, or rather equall with theſe plants, are ſuckers growing out of the roots of great trees, which Cherries and

Suckers good ſets.

Plums do ſeldome or never want: and being taken kindly with their roots, will make very good ſets. And you may help them much by enlarging their roots with the taws of the tree whence you take them. They are of two ſorts: Either growing from the very roots of the tree: and here you muſt be careſull, not to hurt your tree when you gather them, by ripping amongſt the roots; and that you take them clean away: for theſe are a great and continuall annoyance to the grouth of your tree; and they will hardly be cleanſed. Secondly, or they doe ariſe from ſome taw: and theſe may be taken without danger, with long and good roots, and will ſoone become trees of ſtrength.

A running-plant.

There is another way, which I have not thorowly proved, to get not onely plants for graffing, but ſets to remain for trees, which I call a *Running plant*: the manner of is is this: Take a root or kirnell, & put into the middle of your plot, & the ſecond yeere in the ſpring geld his top, if he have one principall, (as commonly by nature they have) & let him put forth only four Syons toward the four corners of the Orchard, as neer the earth as you can. If he put not four (which is rare) ſtay his top till he have put ſo many. When you have ſuch four, cut the ſtock aſlope, as is aforeſaid in this Chap. hard above the uppermoſt ſprig, and keep thoſe four with out Syons clean and ſtreight, till you have them a yard and a half, at leaſt, or two yards long. Then the next ſpring, in graffing time, lay down thoſe four ſprays, towards the four corners of your Orchard, with their tops in a heap of pure and good earth, and raiſed as high as the root of your Syon, (for ſap will not deſcend) and a ſod to keep them down, leaving nine or twelve inches of the top to looke upward. In that hill he will put roots, and his top new cyons, which you muſt ſpread as before, and ſo from hill to hill, till he ſpread the compaſſe of your ground, or as far as you liſt. If, in bending, the Syons crack, the matter is ſmall; cleanſe the ground, and he will recover. Every bended bough will put forth branches, and become trees. If this plant be of a bur knot, there is no doubt: I have proved it in one branch my ſelfe: and I know at *Wilton* in *Cleveland*, a Pear-tree of a great bulke and age, blowne cloſe to the earth, hath put at every knot roots into the earth, and from root to top, a great number of mighty armes or trees, filling a great room, like many trees, or

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a little Orchard. Much better may it be done by Art, in a leſſe tract. And I could not miſlike this kind, ſave that time will be long before it come to perfection.

Many uſe to buy ſets already graſted; which is not the beſt way: for firſt, all removes are dangerous: again there is danger in the carriage: Thirdly, it is a coſtly courſe of planting: Fourthly, every Gardner is not truſty to ſell you good fruit: Fifthly, you know not which is beſt, which is worſt, and ſo may take moſt care about your worſt trees. Laſtly, this way keeps you from practiſe, and ſo from experience, in ſo Good, Gentlemanly, Scholerlike, and profitable a faculty. Sets bought.

The onely beſt way (in my opinion) to have ſure and laſting ſets, is never to remove: for every remove is a hinderance, if not a dangerous hurt, or deadly taint. This is the way: The plot-form being laid, and the plot appoynted where you will plant every Set in your Orchard, dig the roome where your ſet ſhall ſtand, a yard compaſſe, & make the earth mellow and cleane; and mingle it with a few cole-aſhes, to avoid worms; and immediatly after the firſt change of the Moone, in the later end of *Febru-ary*, the earth being afreſh turned over, put in every ſuch room three or four kirnels of Apples or peares of the beſt; every kirnell in an hole made with your finger, finger-deep, a foot diſtant one from another; and that day month following, as many more, (leaſt ſome of the former miſſe) in the ſame compaſs, but not in the ſame holes. Hence (God willing) ſhall you have roots enough, if they all or divers of them come up, you may draw (but not dig) up (nor put downe) at your pleaſure, the next *November*. How many ſoever you take away, to give or beſtow elſewhere, be ſure to leave two of the proudeſt. And when in your ſecond or third yeer you graff, if you graff then at all, leave the one of thoſe two ungraffed, leſt in graffing the other you fail. For I find by tryall, that after the firſt or ſecond graffing in the ſame ſtock, being miſt (for who hits all?) the third miſſe puts your ſtock in deadly danger, for want of iſſue of ſap. Yea, though you hit in graffing, yet may your graffs with wind or otherwiſe be broken down. If your graffs or graff proſper, you have your deſire, in a plant unremoved, without taint, and the fruit at your owne choice: and ſo you may (ſome lyttle earth being removed) pull, but not dig The beſt ſets Vnremoved how.

up

up the other plant or plants in that room. If your graff, or ſtock, or both periſh, you have another in the ſame place, of better ſtrength to work upon; for thriving without ſnub, he will over lay your grafted ſtock much. And it is hardly poſſible to miſſe in grafting ſo often, if your gardiner be worth his name.

Sets ungrafted beſt of all.

It ſhall not be amiſſe (as I judge it) if your kirnels be of choice fruit, and that you ſee them come forward proudly in their body, and beare a fair and broad leaf in colour, tending to a greeniſh yellow, (which argues pleaſant and great fruit) to try ſome of them ungrafted: for although it be a long time ere this come to bear fruit, ten or twelve years, or more; and at their firſt bearing, the fruit will not ſeem to be like his owne kind, yet am I aſſured, upon tryall, before twenty years grouth, ſuch trees will increaſe the bigneſſe and goodneſſe of their fruit, and come perfectly to their owne kind. Trees (like other breeding creatures) as they grow in yeers, bigneſſe and ſtrength, ſo they mend their fruit. Husbands and houſwives find this true by experience, in the rearing of their young ſtore. More then this, there is no tree like this for ſoundneſſe and durable laſt, if his keeping and dreſſing be anſwerable. I grant, the readieſt way to come ſoone to fruit, is graffing; becauſe, in a manner, all your graffs are taken off fruit-bearing trees.

Time of removing.

Now when you have made choiſe of your ſets to remove, the ground being ready, the beſt time is, immediatly after the fall of the leaf, in or about the change of the Moon, when the ſap is moſt quiet; for then the ſap is turning: for it makes no ſtay, but in the *extremity* of drought or cold. At any time in winter, may you tranſplant trees, ſo you put no ice nor ſnow to the root of your plant in the ſetting: and therefore open, calm, and moiſt weather is beſt. To remove, the leaf being ready to fall, and not fallen, or buds apparently put forth in a moiſt warm ſeaſon, for need, ſometime may do well; but the ſafeſt is to walk in the plain troden path.

Generall rule.

Some hold opinion, that it is beſt removing before the fall of the leaf; and I hear it is commonly Practiſed in the ſouth by our beſt Arboriſts, the leaf not fallen: & they give the reaſon to be, that the deſcending of the ſap will make ſpeedy roots. But mark the reaſons following, and I think you ſhall find no ſoundneſſe either

in

in that position or practice, at least in the reason.

1. I say, it is dangerous to remove when the sap is not quiet; for every remove gives a main check to the stirring sap, by staying the course thereof in the body of your plant; as may appear by trees removed any time in Summer, they commonly die, nay hardly shall you save the life of the most young and tender plant of any kind of wood (scarcely herbs) if you remove them in the prid of sap: for proud sap universaly stayed by removal, ever hinders, often taints, and so presently, or in very short time, kills. Sap is like blood in mans body, in which is the life, *cap* 3 *p* 9. If the blood universally be cold, life is excluded: so is sap tainted by untimely removal. A stay by drought, or cold, is not so dangerous (though dangerous, if it be extreame) because more natural.

2. The sap never descends, as men suppose; but is consolidated and transubstantiated into the substance of the tree; and passeth (alwaies above the earth) upward, not onely betwixt the bark and the wood, but also into and in both body and bark, though not so plentifully, as may appear by a tree budding, nay fructifying two or three yeers, after he be circumcised, at the very root, like a River that enlargeth his chanel by a continual descent.

3. I cannot perceive what time they would have the sap to descend. At *Midsummer* in a biting drought it stays, but descends not; for immediately upon moisture, it makes second shoots, at (or before rather) *Michaeltide*, when it shapens his buds for next yeers fruit. If at the fall of leaf, I grant, about that time is the greatest stand, but no descent of sap, which begins somwhat before the leaf fall, but not long; therefore at that time must be the best removing, not by reason of descent, but stay of sap.

4. The sap in this course hath its profitable and apparent effects; as the growth of the tree, covering of wounds, putting of buds, &c. whereupon it follows, if the sap descend, it must needs have some effect to shew it.

5. Lastly, boughs plasht and laid lower then the root, die for want of sap descending, except where it is forced by the main stream of the sap, as in top-boughs hanging like water in pipes, or except the plasht boughs lying on the ground put roots of his own; yea under-boughs, which we commonly call water-boughs

can ſcarcely get ſap to live, yea in time die, becauſe the ſap doth preſſe ſo violently upward, and therefore the faireſt ſhoots and fruits are always in the top.

Remove ſoon. *Object.* If you ſay that many ſo removed thrive, I ſay that ſomewhat before the fall of the leaf (but not much) is the ſtand; for the fall and the ſtand are not at one inſtant: before the ſtand is dangerous. But to returne.

The ſooner in winter you remove your ſets, the better; the latter the worſe: for it is very perillous if a ſtrong drought take your ſets before they have made good their rooting. A plant ſet at the fall, ſhall gain (in a manner) a whole yeers growth of that which is ſet in the ſpring after.

The manner of ſetting. I uſe in the ſetting to be ſure that the earth be mouldy, (and ſomewhat moiſt) that it may run among the ſmall tangles without ſtraining or bruiſing: and as I fill in earth to his root, I ſhake the ſet eaſily to and fro, to make the earth ſettle the better to his roots; and withall eaſily with my foot I put in the earth cloſe; for Ayre is noyſome, and will follow concavities. Some preſcribe Oate to be put in with the earth: I could like it, if I could know any reaſon thereof. And they uſe to ſet their plants with the ſame ſide towards the Sun: but this conceit is like the other. For firſt, I would have every tree to ſtand ſo free from ſhade, that not onely the root (which therefore you muſt keep bare from graſſe) but body, boughs, and branches; and every ſpray, may have the benefit of the Sun. And what hurt, if that part of the tree which before was ſhadowed, be now made partaker of the heat of the Sun? In turning of Bees, I know it is hurtfull, becauſe it changeth their entrance, paſſage, and whole work; but not ſo in trees.

Set in the moiſt. Set as deep as you can, ſo that in any wiſe you goe not beneath the cruſt; Look *Chap.* 2.

Moyſture good. We ſpake in the ſecond Chapter of moiſture in general: but now eſpecially having put your removed plant into the earth, powre on water (of a puddle were good) by diſtilling preſently, and ſo every week twice, in ſtrong drought, ſo long as the earth will drink, and refuſe by overflowing. For moiſture mollifies, and both gives leave to the roots to ſpread, and makes the earth yield ſap and nouriſhment with plenty and facility. Nurſe

they

(they ſay) give beſt and moſt milk after warm drinks.

If your ground be ſuch, that it will keep no moiſture at the root of your plant, ſuch plant ſhall never like, or but for a time. There is nothing more hurtfull for young trees, then piercing drought. I have knowne trees of good ſtature, after they have been of divers years growth, and thrive well for a good time, periſh for want of water, and very many by reaſon of taints in ſetting.

It is meet your ſets and grafts be fenced, till they be as big as your arm, for fear of annoyances. Many ways may ſets receive damages, after they be ſet, whether grafted or ungrafted. For although we ſuppoſe, that no noyſome beaſt or other thing muſt have acceſſe among your trees; yet by caſualty, a Dog, Cat, or ſuch like, or your ſelf, or negligent friend bearing you company, or a ſhrewd boy, may tread or fall upon a young and tender plant or graft. To avoid theſe and many ſuch chances, you muſt ſtake them round a pretty diſtance from the ſet, neither ſo near nor ſo thick, but that it may have the benefit of the Sun, rain, and Air. Your ſtakes (ſmall or great) would be ſo ſurely put, or driven into the earth, that they break not, if any thing happen to lean upon them, elſe may the fall be more hurtfull then the want of the fence. Let not your ſtakes ſhelter any weeds about your ſets; for want of Sun is a great hinderance. Let them ſtand ſo far off, that your grafts ſpreading receive no hurt, either by rubbing on them, or of any other thing paſſing by. If your ſtock be long, and high grafted, (which I muſt diſcommend (except in need) becauſe there the ſap is weak, and they are ſubject to ſtrong winde, and the lightings of birds,) tie eaſily with a ſoft liſt three or four pricks, under the clay, and let their tops ſtand above the grafts, to avoid the lighting of Crowes, Pies, &c. upon your grafts. If you ſtick ſome ſharp thorns at the roots of your ſtalks, they will make hurtfull things keep off the better. Other better fences for your grafts I know none. And thus much for ſets and ſetting.

Grafts muſt be fenced.

CHAP. VIII.

Of the diſtance of trees.

I Know not to what end you ſhould provide good ground, well fenced, and plant good ſets; and when your trees ſhould come

to profit, have all your labours lost, for want of due regard to the distance of placing your trees. I have seen many trees stand so thick, that one could not thrive for the throng of his neighbours. If you do mark it, you shall see the tops of trees rubbed off, their sides galled like a gall'd horse back; and many trees have more stumps then boughs, and most trees not well thriving, but short, stumpish, and evill-thriving boughs; like a Corn-field over-seeded, or a Town over peopled, or a pasture over laid; which the Gardner must either let grow, or leave the tree very few boughs to bear fruite. Hence small thrift, galls, wounds, diseases, and short life to the trees: and while they live, green, little, hard, worm-eaten, and evill-thriving fruit arise, to the discomfort of the owners.

Hurts of too neere plant'ng.

To prevent which discommodity, one of the best remedies is, the sufficient and fit distance of trees. Therefore at the setting of your plants, you must have such respect, that the distance of them be such, that every tree be not annoyance, but an help to his fellowes: for trees (as all other things of the same kind) should shroud, and not hurt one another. And assure your self, that every touch of trees (as well under as above) is hurtfull: Therefore this must be a generall rule in this Art, That no tree in an Orchard well ordered, nor no bough, nor cyon, drop upon or touch his fellowes. Let no man think this impossible, but look in the eleventh Chapter of dressing of trees. If they touch, the wind will cause a forcible rub. Young twigs are tender, if boughs or arms touch or rub, if they are strong, they make great galls. No kind of touch therefore in trees can be good.

Generall rule. All touches hurtfull.

Now it is to be considered, what distance among sets is requisite, and that must be gathered from the compasse and room that each tree by probability will take and fill. And here I am of a contrary opinion to all them which practise or teach the planting of trees, that ever yet I knew, read, or heard of: for the common space betwene tree and tree, is ten foot; if twenty foot, it is thought very much: But I suppose 20 yards distance is small enough betwixt tree and tree, or rather too too little. For the distance must needs be as far as two trees are well able to overspread and fill, so they touch not by one yard at the least. Now I am assured, and I know one Apple tree, set of a slip *finger-great*, in

The best distance of trees.

in the ſpace of twenty yeares (which I acount a very ſmall part of a trees age, as is ſhewed chap. 14.) hath ſpread his boughes eleven or twelve yeares compaſſe, that is, five or ſixe yards on every ſide. Hence I gather, that in forty or fifty years, (which yet is but a ſmall time of his age) a tree in good foile, well liking, by good dreſsing (for that is much availeable to this purpoſe) will ſpread double at the leaſt, viz. twelve yards on a ſide; which being added to twelve allotted to his fellow, make twenty and foure yards, and ſo farre diſtant muſt every tree ſtand from another. And looke how far a tree ſpreads his boughs above, ſo far doth he put his roots under the earth, or rather further, if there be no ſtop nor let by walls, trees, rocks, barren earth, and ſuch-like: for an huge bulke, and ſtrong armes, maſsie boughes, many branches, and infinite twigs, require wide ſpreading roots. The top hath the vaſt aire to ſpread his boughes in, high and low, this way and that way; but the roots are kept in the cruſt of the earth, they may not goe downeward, nor upward out of the earth, which is their element, no more then the fiſh out of the water, Camelion out of the aire, nor Salamander out of the fire. Therefore they muſt needs ſpread far under the earth. And I dare well ſay, If Nature would give leave to man by Art, to dreſſe the roots of trees, to take away the taws and tangles that lap and fret, and grow ſuperfluouſly and diſorderly, (for every thing *ſublunary* is curſed for mans ſake) the tops above being anſwerably dreſſed, we ſhould have trees of wonderfull greatneſſe, and infinite durance. And I perſwade my ſelfe that this might be done ſometimes in winter, to trees ſtanding in faire plains and kindly earth, with ſmall or no danger at all. So that I conclude, that twenty foure yeares is the leaſt ſpace that Art can allow for trees to ſtand diſtant one from another. The parts of a tree.

If you aske me what uſe ſhall be made of that waſt ground betwixt tree and tree: I anſwer, If you pleaſe to plant ſome tree or trees in that middle ſpace, you may; and as your trees grow contiguous, great and thick, you may at your pleaſure take up thoſe laſt trees. And this I take to be the chiefe cauſe why the moſt trees ſtand ſo thick: for men not knowing (or not regarding) this ſecret of needfull diſtance, and loving Waſt ground in an Orchard.

fruit of trees planted to their hands, think much to pull up any though they pine one another. If you or your heirs or ſucceſſors would take up ſome great trees (paſt ſetting) where they ſtand too thick, be ſure to doe it about Midſomer, and leave no maine roots. I deſtinate this ſpace of foure and twenty yards, for trees of age and ſtature. More then this, you have borders to be made for walks, with Roſes, Berries, &c.

And chiefly conſider, that your Orchard, for the firſt twenty or thirty yeares, will ſerve you for many Gardens, for Saffron, Licoras, roots, and other hearbs for profit, and flowers for pleaſure: ſo that no ground need be waſted, if the Gardener be skillfull and diligent. But be ſure you come not neere with ſuch deep delving the roots of your trees, whoſe compaſſe you may partly diſcerne, by the compaſſe of the tops, if your top be well ſpread. And under the droppings and ſhadow of your trees, be ſure no hearbs will like. Let this be ſaid for the diſtance of trees.

CHAP. IX.

Of the placing of trees.

THe placing of trees in an Orchard, is well worth the regard: For although it muſt be granted, that any of our foreſaid trees (chap. 2.) will like well in any part of your Orchard, being good and well dreſt earth; yet are not all trees alike worthy of a good place. And therefore I wiſh that your Filbert, Plums, Damſons, Bulleſſe, and ſuch-like, be utterly removed from the plain ſoyle of your Orchard into your fence: for there is not ſuch fertility and eaſefull growth, as within: and there alſo they are more ſubject, and can abide the blaſts of *Æolus*. The Cherries and Plums being ripe in the hot time of Summer, and the reſt ſtanding longer, are not ſo ſoon ſhaken as your better fruit: neither, if they ſuffer loſſe, is your loſſe ſo great. Beſides that, your fences and ditches will devour ſome of your fruit growing in, or neare your hedges. And ſeeing the continuance of all theſe (except Nuts) is ſmall, the care of them ought to be the leſſe. And make no doubt, but the fences of a large Orchard will containe a ſufficient number of ſuch kind of Fruit-trees in the whole compaſſe. It is not materiall, but at your pleaſure, in the ſaid fences, you may either intermingle your

your ſeverall kinds of Fruit-trees, or ſet every kind by it ſelfe, order doth very well become your better & greater fruit. Let therefore your Apples, Peares, and Quinces, poſſeſſe the ſoile of your Orchard, unleſſe you be eſpecially affected to ſome of your other kinds: and of them, let your greateſt trees of growth ſtand further from Sun, and your Quinces at the ſouth-ſide or end, and your Apples in the middle: ſo ſhall none bee any hindrance to his fellows. The warden-tree, and Winter-peare, will challenge the preeminence for ſtature. Of your Apple-trees, you ſhall find a difference in growth. A good Pippin will grow large, and a Coſtard-tree: ſtead them on the North-ſide of your other Apples; thus being placed, the leaſt will give Sun to the reſt, and the greateſt will ſhroud their fellows. The Fences and out-trees will guard all.

CHAP. X.

Of Grafting.

NOw are we come to the moſt curious point of our faculty: curious in conceit, but in deede as plaine and eaſie as the reſt, when it is plainly ſhewn, which we commonly call Graf- Of Graving or Carving. Grafting what.

fing.

Graf ing what. fing, or (after some) Grafting. I cannot Etymologize, nor shew the originall of the Word, except it come of Graving or Carving.

A Graffe. But the the thing or matter is: The reforming of the fruite of one tree with the fruit of another, by an artificiall transplacing or transposing of a twigge, bud or leafe, (commonly called a Graft) taken from one tree of the same, or some other kinde, and placed or put to, or into another tree in one time and manner.

Kinds of graf ng. Of this there be divers kinds, but three or foure now especially in use: to wit, Grafting, incising, packing on, grafting in the scutchion, or inoculating: whereof the chiefe and most usuall, is called Grafting (by the generall name, *Catexochen*:) for it is the most known, surest, readiest, and plainest way to have store of good fruit.

Graft how. It is thus wrought; You must with a fine, thin, strong and sharpe Saw, made and armed for that purpose, cut off a foot above the ground, or thereabouts, in a plain without a knot, or as neare as you can without a knot (for some stocks will bee knotty) your Stocke, set, or plant being surely stayed with your foot and legge, or otherwise straight overwhart (for the Stock may be crooked) and then plain his wound smoothly with a sharpe knife: that done, cleave him cleanly in the middle with a cleaver, and a knock or mall, and with a wedge of Wood, Iron, or Bone, two handfull long at least; put into the middle of that clift, with the same knock, make the wound gape a straw breadth wide, into which you must put your Graffes.

A Graft what. The graft is a top twig taken from some other tree (for it is a folly to put a graffe into his owne stock) beneath the uppermost (and sometimes in need the second) knot, and with a sharp knife fitted in the knot (and sometimes out of the knot when need is) with shoulders an inch downward, and so put into the stock with some thrusting (but not straining) barke to barke inward.

Eyes. Let your graffe have three or four eyes for readines to put forth, and give issue to the sap. It is not amisse to cut off the top of your graffe, and leave it but five, or sixe inches long, because commonly you shall see the tops of long graffes die. The reason is this. The sap in graffing receives a rebuke, & cannot worke so strongly presently,

ſently and your graffes receive not ſap ſo readily, as the naturall branches. When your graffs are cleanly & cloſely put in, & your wedg puld out nimbly, for fear of putting your graffs out of frame, take well tempered morter, ſoundly wrought with chaffe or horſe dung (for the dung of cattle will grow hard, and ſtraine your graffs) the quantity of a Gooſe egge, and divide it Juſt, and therewithall cover your ſtock, laying the one halfe on the one ſide, and the other halfe on the other ſide of your graffes, (for thruſting again your graffes you move them) and let both your hands thruſt at once, and alike, and let your clay be tender, to yeeld eaſily; and all, leſt you move your graffes. Some uſe to cover the cleft of the ſtocke, under the clay, with a piece of barke or leafe, ſome with a ſear-cloth of waxe and butter, which as they be not much needfull, ſo they hurt not, unleſſe that by being buſie about them, you move your graffs from their places. They uſe alſo moſſe tyed on above the clay with ſome bryar, wicker, or other bands. Theſe profit nothing. They all put the graffes in danger, with pulling and thruſting, for I hold this generall rule in graffing and planting: if your ſtock and graffes take and thrive (for ſome will take and not thrive, being tainted by ſome meanes in the planting or graffing) they will (without doubt) recover their wounds ſafely and ſhortly. Generall rule.

The beſt time of graffing from the time of removing your ſtock is the next Spring, for that ſaves a ſecond wound, and a ſecond repulſe of ſap, if your ſtock be of ſufficient bigneſſe to take a graffe from as big as your thumbe, to as big as an arme of a man. You may graffe leſſe (which I like) & bigger, which I like not ſo well. The beſt time of the year is in the laſt part of *February*, or *March*, or beginning of *Aprill*, when the Sun with his heat begins to make the ſap ſtirre more rankly about the change of the moon, before you ſee any great apparency of leafe or flowers, but onely knots and buds, and before they be proud, though it be ſooner: Cherries, Peares, Apricoks, Quinces, and Plummes would be gathered and graſted ſooner. Time of graffing.

The graffes may be gathered ſooner in *February*, or any time within a month, or two before you graffe, or upon the ſame day (which I commend) if you get them any time before, for I Gathering of graffes.

have knowne graffes gathered in *December* and doe well, take heed of drought. I have my ſelf taken a burke not of a tree, and the ſame day when he was laid in the earth about mid *February* gathered grafts and put in him, and one of thoſe graffes bore the third yeare after, and the fourth plentifully; Graffes of old trees would be gathered ſooner then of young trees for they ſooner breake and bud. If you keepe graffes in the earth, moiſture with the heat of the Sun will make them ſprout as faſt, as if they were growing on the tree. And therefore ſeeing keeping is dangerous, the ſureſt way (as I judge) is to take them within a weeke of the time of your grafting.

Graffes of old trees.

The grafts would be taken not of the prodeſt twigs, for it may be your ſtock is not anſwerable in ſtrength. And therefore (ſay I) the grafts brought from South to us in the North although they take and thrive (which is ſomewhat doubtfull, by reaſon of the difference of the clime and carrage) yet ſhall they in time faſhion themſelves to our cold Northern ſoile, in groth, taſt, &c.

Where taken.

Nor of the pooreſt, for wont of ſtrength may make them unready to receive ſap (and who can tell but a poor graft is tainted) nor on the outſide of your tree, for their ſhould your tree ſpread but in the middeſt; for their you may be ſure your tree is no whit hindered in his grouth or forme. He will ſtill recover inward, more then you would wiſh. If your clay clift in Summer with drought, looke well in the Chinkes for Emmets and Earwigs, for they are cunning and cloſe thevet, about grafts you ſhall find them ſtirring in the morning and evening, and the rather in the moiſt weather. I have had many young buds of Graffs, even in the flouriſhing, eaten with Ants. Let this ſuffice for graffing, which is in the faculty counted the cheiſe ſecret, and becauſe it is moſt uſuall, it is beſt knowne.

Emmits.

Graffes are not to be diſliked for grouth, till they wither, pine, and die. Vſually before *Midſummer* they break, if they live. Some (but few) keeping provd and green, will not put till the ſecond yeer, ſo is it to be thought of lets.

The firſt ſhew of putting is no ſure ſigne of grouth, it is but the ſap the graffe brought with him from his tree.

So ſoone as you ſee the graft put forth grouth, take away the clay, for then doth neither the ſtock nor the graft need it, (put a little

little freſh well tempered clay in the hole of the ſtock,) for the clay is now tender, and rather keeps moiſtur then drought.

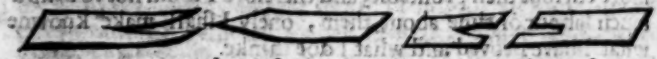
The other waies of changing the naturall fruit of Trees, are more curious then profitable, and therefore I mind not to beſtow much labour or time about them, onely I ſhall make knowne what I have proved and what I doe thinke.

Inciſing. And firſt of inciſing, which is the cutting of the back of the boale, a rine or branch of a tree at ſome bending or knee, ſhoulderwiſe with two gaſhes, onely with a ſharp knife to the wood: then take a wedge, the bignes of your graf ſharp ended, flat on the one ſide, agreeing with the tree, and round one the other ſide, and with that being thruſt in, raiſe your bark, then put in your graffe, faſhoned like your wedge juſt: and laſtly cover your wound, and faſt it up, and take heed of ſtraining. This will grow but to ſmall purpoſe, for it is weak hold, and lightly it will be under grouth. Thus may you graft betwixt the bark and the tree of a great ſtock that will not eaſily be clifted: But I have tryed a better way for great trees, *viz.* Firſt, cut him off ſtraight, and cleanſe him with your knife, then cleave him into four quarters, equaly with a ſtrong cleaver: then take for every clift two or three ſmall (but hard) wedges, juſt of the bigneſſe of your grafts, and with thoſe wedges driven in with a hammer, open the four clifts ſo wide (but no wider) that they may take your four graffes with thruſting, not with ſtraining: and laſtly cover and clay it cloſely, and this is a ſure & good way of grafting: or thus clift your ſtock by his edges twice or thrice with your clever, and open him with your wedge in every clift one by one, and put in your graffes and then cover them. This may doe well. A great ſtock.

Packing on, is when you cut aſlope a twig of the ſame bigneſſe with your graft, either in or beſides the knot, two inches long, and make your graft agree jump with the cyon, and gaſh your graft and your cyon in the middeſt of the wound, length-way, a ſtraw breadth deep, and thruſt the one into the other, wound to wound, ſap to ſap, barke to barke, then tye them cloſe and clay them. This may doe well. The faireſt graft I have in my little Orchard, which I have planted, is thus packt on, and the branch whereon I put him, is in his plentifull roote. Packing thus.

To be ſhorn in this point, cut your graft in any ſort or faſhion

two inches long, and joyne him cleanly and close to any other sprig of any tree in the latter end of the time of grafting, when sap is somewhat rise, and in all probability they will close and thrive: thus



The sprig. The graft. The twig. The graft.

Or any other fashion you thinke good.

Inoculating. Inoculating is an eye or bud, taken bark and all from one tree, and placed in the room of another eye or bud of another; cut both of one compas, and theire bound. This must be done in Summer, when the sap is proud.

Much like unto this, is that they call grafting in the scutchion, they differ thus: That here you must take an eye with his leaf, or (in mine opinion) a bud with his leaves. (Note that an eye is for a scion, a bud is for flowers and fruit) and place them on an other tree, in a plain (for they so teach) the place or bark where you must set it, must bee thus cut with a sharp knife, & the barke raised with a wedge, and then the eye or bud put in & so bound up. I cannot deny but such may grow. And your bud if he take will flower and beare fruit in that year: as some grafts and sets also, being set for bloomes. If these two kindes thrive, they reforme but a spray and an under growth. Thus you may place Roses on thornes, and Cherries on Apples, and such like. Many writ much more of grafting, but to small purpose. Whome we leave to themselves, and their followers, and ending this secret we come in the next chapter to a point of knowledge most requisite in an Arborist, as well for all other woods as for an Orchard.

Grafting in the Scutchion.

CHAP. II

Of the right dressing of Trees.

IF all these things aforesaid were indeed performed, as we have shewed them inwords, you should have a perfect orchard nature & substance, begun to your hand: And yet are all these in things nothing, if you want that skil to keep and dresse your trees. Such is the condition of all earthly things, whereby a man receiveth profit or pleasure, that they degenerate present-

Neerssity of dressing trees

ly without good ordering. Man himself left to himself, growes from his heavenly and spirituall generation, and becometh beastly, yea devilish to his own kind, unlesse he be regenerate. No marvell then, if trees make their shoots, and put their sprays disorderly. And truly (if I were worthy to judge) there is not a mischiefe that breedeth greater and more generall harme to all the Orchard (especially if they be of any continuance) that ever I saw, (I will not except three) then the want of the skilfull dressing of trees. It is a common and unskilfull opinion, and saying, Let all grow, and they will beare more fruite: and if thou lop away superfluous boughs, they say what a pitty is this? how many apples would these have borne? not considering there may arise hurt to your Orchard, aswell (nay rather) by abundance, as by want of wood. Sound and thriving plants in a good soile, will ever yeeld too much wood, and disorderly, but never too little. So that a skilfull and painfull Arborist need never want matter to effect a plentifull and well drest orchard: for it is an easie matter to take away superfluous boughs (if your gardner have skill to know them) whereof your plants will yeeld abundance, and skill will leave sufficient well ordered. All ages both by rule and experience do consent to a pruning and lopping of trees: yet have not any that I know described unto us (except in dark and generall words) what or which are those superfluous boughes, which we must take away, and that is the chiefe and most needfull point to be knowne in lopping. And we may well assure our selves, (as in all other Arts, so in this) there is a vantage and dexterity, by skill, and an habite by practise out of experience, in the performance hereof for the profit of mankind; yet doe not I know (let me speak it with the patience of our cunning Arborists) any thing within the compasse of human affaires so necessary, and so little regarded, not onely in Orchards, but also in all other timber trees, where, or whatsoever.

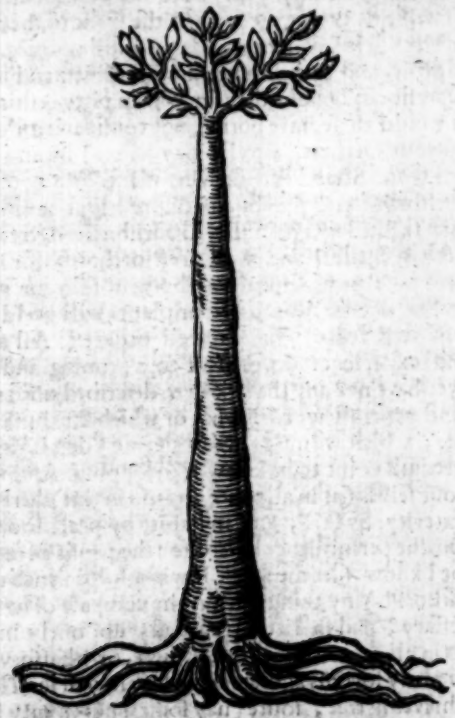
Generall rule.

How many forrests and woods wherein you shall have for one lively thriveing tree, foure (nay sometimes twenty foure) evill thriving, rotten and dyeing trees, even while they live? and instead of trees, thousands of bushes and shrubs. What rottennesse? what hollowuesse? what dead armes? withered tops? curtalled trunks? what loads of mosse? drouping boughs? and dying

Timber wood evill drest.

branches you ſhall ſee every where? And thoſe that like in this ſort are in a manner all unprofitable boughs, cankered arms, crooked, little and ſhort boals: what an infinite number of buſhes, ſhrubs, and ſkrogs of hazels, thornes, and other profitable wood, which might be brought by dreſſing to become great and goodly trees. Conſider now the cauſe: The leſſer wood hath beene

The cauſe of hurts in woods



Imagin the root to be ſpread far widder.

ſpoyled with careleſſe, unskilfull, and untimely ſtowing, and much alſo of the great wood. The greater trees at the firſt riſing have filled and over-laden themſelves with a number of waſtfull boughes

boughes and ſuckers, which have not only drawne the ſap from the boale, but alſo have made it knotty, and themſelves and the boale moſſie for want of dreſſing, whereas if in the prime of grouth they had beene taken away cloſe, all but one top (according to this pattern) and cleane by the bulke, the ſtrength of all the ſap ſhould have gone to the bulke, and ſo he would have recovered and covered his knots, and have put forth a faire long and ſtraight body (as you ſee) for timber profitable, huge, great of bulke, and of infinite laſt. Dreſſe timber trees how.

If all timber trees were ſuch (will ſome ſay) how ſhould we have crooked wood for wheels, coorbs, &c.

Anſw. Dreſſe all you can, and their will be enough crooked for thoſe uſes.

More then this, in moſt places, they grow ſo thick, that neither themſelves, nor earth, nor any thing under or neer them can thrive, nor Sun, nor rain, nor aire can doe them, nor any thing neere or under them any profit or comfort.

I ſee a number of Hags, where out of one roote you ſhall ſee three or foure (nay more) ſuch as mens unskilfull greedineſſe, who deſiring many have none good) pretty Okes or Aſhes, ſtraight and tall, becauſe the root at the firſt ſhoot gives ſap amaine: but if one onely of them might be ſuffered to grow, and that well and cleanly pruned, all to his very top, what a tree ſhould we have in time? And we ſee by thoſe rootes continually and plentifully ſpringing, notwithſtanding ſo deadly wounded, What a comodity ſhould ariſe to the owner, and the Commonwealth, if wood were cherriſhed, and orderly dreſſed.

The waſt boughs cloſely and skilfully taken away, would give us ſtore of fences and fuell, and the bulk of the tree in time would grow of huge length and bigneſſe. But here (me thinkes) I heare an unskillfull Arboreſt ſay, that trees have their ſeverall formes, even by nature, the Peare, the Holly, the Aſpe, &c. grow long in bulk with few and little armes, the Oke by nature broad and ſuch like. All this I grant: but grant me alſo, that there is a profitable end, and uſe of every tree, from which if it decline (though by nature) yet man by art may (nay muſt) correct it. Now other end of trees I could never learne, then good timber, fruit much and good, and pleaſure. Vſes phyſicall hinder nothing a good forme. Profit of trees dreſſed. The end of trees.

Nei-

Trees will take any forme.

Neither let any man ſo much as thinke, that it is unprofitable much leſſe unpoſſible, to reforme any tree of what kind ſoever. For (beleeve me) I have tryed it, I can bring any tree (beginning by time) to any forme. The Peare and Holly may be made to ſpread, and the Oke to cloſe.

But why doe I wander out of the compaſſe of mine Orchard, into the Forreſts and Woods? Neither yet am I from my purpoſe, if boals of timber trees ſtand in need of all the ſap, to make them great and ſtreight (for ſtrong grouth and dreſſing makes ſtrong trees) then it muſt be profitable for fruit (a thing more immediatly ſerving a mans need) to have all the ſap his root can yeeld: for as timbere ſound, great, and long, is the *good of timber trees*, and therfore they beare no fruite of worth: ſo fruit, good, ſound, pleaſant, great and much, is the end of fruite trees. That gardner therefore ſhall performe his dutie skilfully and faithfully, which ſhall ſo dreſſe his trees, that they may beare ſuch and ſuch ſtore of fruit, which he ſhall never doe (I dare undertake) unleſſe he keep this order in dreſſing his trees.

The end of trees.

How to dreſſe a fruit-tree

A fruit tree ſo ſtanding, that there need none other end of dreſſing but fruite (not ornaments but walks, nor delight to ſuch as would pleaſe their eye only, and yet the beſt forme cannot but both adorne and delight) muſt be parted from within two foot or there abouts, of the earth, ſo high to give libertye to dreſſe his roote, and no higher, for drinking up the ſap that ſhould feed his fruit, for the beale will be firſt, and beſt ſerved and fed, becauſe he's next the roote, and of greateſt waxe and ſubſtance, and that makes him longeſt of life, into two, three or foure armes, as your ſtocke or graffes yeeld twigs, and every arme into two or more branches, and every branch into his ſeverall ſyons, ſtill ſpredding by equall degrees, ſo that his loweſt ſpray be hardly without the reach of a mans hand, and his higheſt be not paſt two yards higher, rarely (eſpecially in the middeſt) that no one twig touch his fellow. Let him ſpread as farte as he liſt without his maiſter-bough, or lop equally. And when any bough doth grow ſadder and fall lower then his fellowes (as they will with weight of fruit) eaſe him the next ſpring of his ſuperfluous twigs, and he will Riſe: when any bough or ſpray ſhall amount above the reſt; either ſnub his top with a nip betwixt

twixt your finger and your thumb, or with a ſharpe knife, and take him cleane away, and ſo you may uſe any Cyon you would reforme, and as your tree growes in ſtature and ſtrength, ſo let him riſe with his tops but ſlowly, and early, eſpecially in the middeſt, and equally, and in breadth alſo, and follow him upward with lopping his under grouth and water-boughes, keeping the ſame diſtance of two yards, but not above three in any wiſe, betwixt the loweſt and the higheſt twigs.

Benefits of good dreſſing. Remedy.

1. Thus you ſhall have well liking, cleane skind, healthfull, great, and longlaſting trees.

2. Thus ſhall your tree grow low, and ſafe from winds, for his top will be great, broad, and weighty.

3. Thus growing broad, ſhall your trees beare much fruit (I dare ſay) one as much as five of your common trees, and good without ſhadowing, dropping and fretting; for his boughes, branches, and twigs ſhall be many, and thoſe are they (not the boale) which beare fruite.

4. Thus ſhall your boale being little (not ſmall, but low) by reaſon of his ſhortneſſe, take lyttle, and yeeld much ſap to fruit.

5. Thus your trees by reaſon of ſtrength in time of ſetting ſhall put forth more bloſſomes and more fruit, being free from taints; for ſtrength is a great help to bring forth much, and ſafely, whereas weakneſſe fails in ſetting, though the ſeaſon be calme.

Some uſe to bare trees roots in winter, to ſtay the ſetting till hotter ſeaſons, which I diſcommend, becauſe

1. They hurt the roots.

2. It ſtayes nothing at all.

3. Though it did, being ſmall, with us in the North they have their part of our *Aprill* and *May* froſts.

4. Hinderance cannot profit weak trees in ſetting.

5. They waſt much labour.

6. Thus ſhall your tree be eaſie to dreſſe, and without danger, either to the tree or the dreſſer.

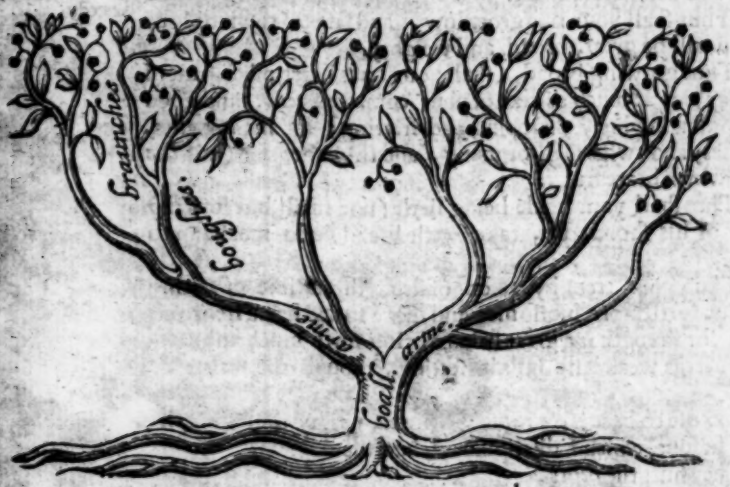
7. Thus may you ſafely and eaſily gather your fruit without falling, bruſing, or breaking of Cyons.

This is the beſt forme of a fruit tree, which I have here ſhadowed

meanes in time die: For the ſap preſſeth upward; and it is like dowed out for the better cappacity of them that are led more with the eye, then the mind, craving pardon for the deformitie, becauſe I am nothing skilfull either in the painting or carving.

Imagine that the paper makes but one ſide of the tree to appeare, the whole rouud compaſſe will give leave for many more armes, boughes, branches, and cyons.

The perfect forme of a fruit tree.



If any tree cannot well be brought to this forme: *Experto credo Roberto*, I can ſhew divers of them under twenty yeeres of age.

Time beſt for proyning.

The fitteſt time of the Moone for proyning is as of grafting, when the ſap is ready to ſtirre (not proudly ſtirring) and ſo to cover the wound, and of the yeere, a moneth before (or at leaſt when) you graffe. Dreſſe Peares, Apricockes, Peaches, Cherries, and Bullyes ſooner. And old trees before young plants, you may dreſſe at any time betwixt Leafe and Leafe. And note, where you take any thing away, the ſap the next Summer will be putting: be ſure therefore when he puts a bud in any place where you would not have him, rub it off with your finger. And

And here you must remember the common homely proverbe: Dressing betime.

Soone crookes the tree,
That good Camrell must be.

Beginne betime with trees, and doe what you list: but if you let them grow great and stubborne, you must doe as the trees list. They will not bend but breake, nor be wound without danger. A small branch will become a bough, and a bough an arme in bignesse. Then if you cut him, his wound will fester, and hardly without good skill recover: therefore, *Obsta principiis.* Of such wounds, and lesser, or any bough cut off a handfull or more from the body, comes hollownesse, and untimely death. And therefore when you cut, strike close, and cleane, and upward, and leave no bunch. Faults of evill dreſt trees, and the remedy.

This forme in some cases sometimes may be altered: If your tree, or trees, stand neere your Walkes, if it please your fancy more, let him not breake till his boal be above your head: so may you walk under your trees at your pleasure. Or if you set your fruit trees for your shades in your Groaves, then I respect not the forme of the tree, but the comlinesse of the walke. The forme altereth.

All this hitherto spoken of dressing, must be understood of young plants, to be formed: it is meet somewhat be said for the instruction of them that have old trees already formed, or rather deformed: for *Malum non vitatur nesi cognitum.* The faults therefore of a disordered tree, I find to be five. Dressing of old trees.

1. An unprofitable boale.
2. Water boughes.
3. Fretters.
4. Sucker. And,
5. One principall top.

Faults are five and their remedies.

A long boale asketh much feeding, and the more he hath the more he desires, and gets (as a drunken man drink, or a covetous man wealth) and the the lesse remaines for the fruit, he put his boughes into the aire, and makes them, the fruit, and it selfe more dangered with winds: for this I know no remedy, after that the tree is come to grouth; once evill, never good. Long boale. No remedy.

Water boughes, or under grouth, are such boughes as grow low under others, and are by them over grown, overshadowed, dropped on, and pinde for want of plenty of sap, and by that 1 Water boughes.

water in her courſe, where it findeth moſt iſſue, thither it floweth, leaving the other leſſer ſluces dry, even as wealth to wealth, and much to more. Theſe ſo long as they beare, they beare leſſe, worſe and fewer fruit, and wateriſh.

Remedy. The remedy is eaſie, if they be not grown greater then your arme. Lop them cloſe and clean, and cover the middle of the wound, the next Summer when he is dry, with a ſalve made of tallow, tarre and a very little pitch, good for the covering of any ſuch wound of a great tree: unleſſe it be bark-pild, and then a ſeare-cloth of freſh butter, hony and waxe preſently (while the wound is green) applyed, is a ſoveraigne remedy, in Summer eſpecially. Some bind ſuch wounds with a thumb rope of hay, moiſt, and rub it with dung.

Bark-pild, and the remedy.

Fretters. Fretters are, when as by the negligence of the gardner, two or more parts of the tree, or of divers trees, as armes, boughes branches, or twigs, grow ſo neere and cloſe together, that one, of them by rubbing doth wound another. This fault of all other ſhewes the want of skill, or care (at leaſt) in the arboriſt: for here the hurt is apparent, and the remedy eaſie, ſeen to betimes: galls and wounds incurable, but by takeing away thoſe members: for let them grow, and they will be worſe and worſe, and ſo kill themſelves with civill ſtriſe for roomth, and danger the whole tree. Avoid them betime therefore, as a common-wealth doth boſome enemies.

Touching.

Remedy.

Suckers. A Sucker is a long, proud, and diſorderly Cyon, growing ſtreight up (for pride of ſap makes proud, long, and ſtreighe grouth) out of any lower parts of the tree, receiving a great part of the ſap, and bearing no fruit, till it have tyranized over the whole tree. Theſe are like idle and great Drones amongſt Bees: and proud and idle members in a common-wealth.

The remedy of this is, as of water boughes, unleſſe they be growne greater then all the reſt of the boughes, and then your Gardner (at your diſcretion) may leave him for his boal, and take away all, or the moſt of the reſt. If he by little ſlip him, and ſet him, perhaps he will take: my faireſt Apple tree was ſuch a ſlip.

One principall top or bough, and remedy. One or two principall top boughes are as evill, in a manner, as ſuckers, they riſe of the ſame cauſe, and receive the ſame remedy:

medie: yet theſe are more tollerable, becauſe theſe bear fruit, yea the beſt: but Suckers of long doe not beare.

I know not how your tree ſhould be faulty, if you reforme all your vices timely, and orderly. As theſe rules ſerve for dreſſing young trees, and ſets in the firſt ſetting: ſo may they well ſerve to help old trees, though not exactly to cover them. Inſtruments for dreſſing

The inſtruments fitteſt for all theſe purpoſes, are moſt commonly, for the greateſt trees, an handſome, long, light Ladder of Firpoles, a little, nimble, and ſtrong armed Saw, and ſharpe. For leſſe trees, a little and ſharp Hatchet, a broad mouthed Cheſell, ſtrong and ſharpe, with an hand-beetle, your ſtrong and ſharp Clever, with a knock, and (which is a moſt neceſſary inſtrument amongſt little trees) a great haſted and ſharp knife or whittle. And as needfull is a ſtoole on the top of a Ladder of eight or moe rungs, with two back feet, whereon you may ſafely, and eaſily ſtand to graffe, to dreſſe, and to gather fruit, thus formed. The feet may be faſt wedged in: but the Ladder muſt hang looſe with two bands of Iron. And thus much of dreſſing trees for fruit, formally to profit.

CHAP. 12.
Of Soyling.

THere is one thing yet very neceſſary for to make your Orchard both better, and more laſting: Yea ſo neceſſary, that without it your Orchard cannot laſt, nor proſper long, which is neglected generally both in precepts and in practiſe, *viz.* manuring with Soil: whereby it happeneth that when trees (amongſt other evils) through want of fatneſſe to feed them, become moſſie, and in their grouth are evill (or not) thriving, it is either attributed to ſome wrong cauſe, as age (when indeed they are but young) or evill ſtanding (ſtand they never ſo well) or ſuch like, orelſe the cauſe is altogether unknowne, and ſo not amended. Neceſſity of ſoiling

Can there be deviſed any way by nature, or art, ſooner or ſoundlier to ſuck out, and take away the heart of earth, then by great trees? ſuch great bodies cannot be ſuſtained without great ſtore of ſap. What living body have you greater then of trees? The great Sea-monſters (whereof one came a land at *Teeſemouth* Trees great Suckers.

in *Yorkeſhire*, hard by us, 18 yards in length, and neere as much in compaſe ſeeme hideous, huge ſtrange, and monſtrous, becauſe they be indeed great but eſpecially, becauſe they are ſeldome ſeene: But a tree liking, come to his grouth and age, twice that length, and of a bulke never ſo great, beſides his other parts, is not admired, becauſe he is ſo commonly ſeen. And doubt not, but if he were well regarded from his kernell, by ſucceeding ages, to his full ſtrength, the moſt of them would double their meaſure. About fifty yeers ago, I heard by credible and conſtant repors. That in *Brookham* Park in *Weſtmereland*, neer unto *Penrith*, their lay a blowne Oake, whoſe trunke was ſo bigge, that two Horſemen being the one on the one ſide, and the other one the other ſide, they could not ſee one another: to which if you ad his arms, boughs, & rootes, & conſider of his bigneſſe, what woule he have been, if preſerved to the vantage? Alſo I read in the hiſtory of the *Weſt-Indians*, out of *Peter Martyr* that ſixteene men taking hands one with another, were not able to fathome one of thoſe trees about. Now nature having given to ſuch a faculty by large and infinite roots, taws and tangles, to draw immediatly his ſuſtanance from our common mother the earth (which is like in this poynt to all other mothers that bear) hath alſo ordained that the tree over-loden with fruit, and wanting ſap to feed all ſhee haith brought forth, will waine all ſhee cannot feed, like a women bringing forth more children at once then ſhe hath teats. See you not how trees eſpecially, by kind being great, ſtanding ſo thick and cloſe, that they cannot get plenty of ſap, pine away all the graſſe, weeds, leſſer ſhrubs and trees; yea, and themſelves alſo for want of vigour of ſap? ſo that trees growing large, ſucking the ſoyle whereon they ſtand continually and amaine, and the foizon of the earth that feeds them decaying (for what is there that waſts continually, that ſhall not have an end?) muſt either have ſuply of ſucking, or elſe leave thriving and growing. Some grounds will beare corne while they be new, and no longer, becauſe their cruſt is ſhallow, and not very good, and lying they ſcind and waſh and become barren. The ordinary corne ſoyls cantinue not fertile, with following and ſoyling, and the beſt requires ſuply even for the little body of corne. How then can we think that a-

ny

ny ground how good ſoever can ſuſtaine bodies of ſuch great- Great bodies
neſſe, and ſuch great feeding, without great plenty of ſap ariſing from good earth? this is one of the chiefe cauſes why ſo many of our Orchards in *England* are ſo evill thriving when they come to grouth, and our fruit ſo bad. Men are loth to beſtow much ground, and deſire much fruit, and will neither ſet their trees in ſufficient compaſſe, nor yet feed them with manure. Therefore of neceſſity Orchards muſt be foiled.

The fitteſt time is, when your trees are growne great, and have neer hand ſpread your Earth, wanting new earth to ſuſtain them, which if they doe, they will ſeek abroad for better earth; and ſhun that which is barren (if they find better) as cattle evill paſturing. For nature hath taught every creature to deſire and ſeeke his owne good, and to avoid hurt. The beſt time of the yeare is at the fall, that the froſt may bite & make it tender, and the rain waſh it into the roots. The Summer time is perilous if ye dig, becauſe the ſap ſtirs amaine. The beſt kind of ſoil is ſuch as is fat, hot and tender. Your earth muſt be lightly opened, that the Dung may go in, and waſh away; and but ſhallow, leſt you hurt the rootes: and in the ſpring cloſely and equally made plain again for fear of Suckers. I could wiſh, that after my trees have fully poſſeſſed the ſoyle of mine Orchard, that every ſeven yeers at leaſt, the ſoil were beſpread with Dung halfe a foot thick at leaſt. Puddle water out of the dunghill poured on plentifully, will not onely moiſten but fatten; eſpecially in *June* and *July*. If it be thick and fat, and applyed every yeere, your Orchard ſhall need nons other foiling. Your grovnd may ly ſo low at the River ſide, that the flood ſtanding ſome dayes and nights thereon, ſhall ſave you all this labour of foiling.

CAAP. 13.

Of Annoyances.

A Chiefe help to make every thing good, is to avoide the evills thereof: you ſhall never attaine to that good of your Orchard you looke for, unleſs you have a gardner that can diſcerne the Diſeaſes of your trees, and other annoyances of your Orchard, and find out the cauſes thereof, and know and apply fit remedies for the ſame. *For be your ground ſuch plants and trees as you would wiſh, if they be waſted with hurtfull things, what*

have

have you gained, but your labour for your travel? Is it with an Orchard and every Tree, as with mans body. The best part of physick for preservation of health, is to foresee and cure diseases.

Two kind of evills in an Orchard.

All the diseases of an Orchard are of two sorts, either internall, or externall. I call those inward hurts which breed on, and in perticular trees.

1 Galles.
2 Canker.
3 Mosse.
4 Weaknesse in setting.
5 Bark bound.
6 Bark pild,
7 Worme.
8 Deadly wounds.

Galls.

Galles, Cankers, Mosse, Weaknesse, though they be divers diseases: yet (howsoever authors think otherwise) they rise all out of the same cause.

Galles we have described with their cause and remedy, in the 11 Chapter under the name of fretters.

Canker.

Ganker is the consumption of any parts of the tree, bark and wood; which also in the same place is deciphered under the title of water-boughes.

Mosse.

Mosse is sensibly seen and knowne of all, the cause is pointed out in the same chapter, in the discourse of timber-wood, and partly also the remedy: but for Mosse adde this, that any time in summer (the spring is best) when the cause is removed, with an Hair-cloth immediatly after a shower of raine, rub off your moss, or with a piece of wood (if the mosse abound) formed like a great knife.

Weaknesse in setting.

Weaknesse in the setting of your fruite shall you find there also in the same chapter, and his remedy. All these flow from the want of roomth in good soile, wrong planting, Chapter. 7. and evill, or no dressing.

Bark-bound.

Bark bound as I think riseth of the same cause, and the best, and present remedy (the causes being taken away) is with your sharp knife in the spring, length way to lance his bark thorough-out 3 or 4 sides of his boul.

Worme.

The disease called the worm is thus discerned: the bark will be hollow in diverse places like gall, the wood will dy and dry, and you shall see easily the bark swell: it is verily to be thought, that therein is bred some worme. I have not yet thorowly sought it out, because I was never troubled therewithall: but only

onely have ſeen ſuch trees in divers places. I thinke it a worme rather, becauſe I ſee this diſeaſe in trees, bringing fruit of ſweet taſt, and the ſwelling ſhewes as much. The remedy (as I conjecture) is, ſo ſoone as you perceive the wound, the next Spring cut it out bark and all, and apply Cows piſſe and vineger preſently, and ſo twice or thrice a week for a monthes ſpace: For I well perceive, if you ſuffer it any time, it eats the tree or bough round, and ſo kills. *Since I firſt wrot this treatiſe, I have changed my mind concerning the diſeaſe called the worm, becauſe I read in the hiſtory of the Weſt-Indians, that their trees are not troubled with the diſeaſe called the worm or canker, which ariſeth of a raw and evill concocted humor or ſap. Witneſſe* Pliny: *by reaſon the Country is more hot then ours; whereof I thinke the beſt remedy is* (not diſallowing the former, conſidering that the worm may breed by ſuch an humor) *warme ſtanding, ſound lopping, and good dreſſing.*

Bark pil'd you ſhall find with his remedy in the eleventh Chapter.

Deadly wounds are, when a mans *Arboriſt* wanting skill, cuts off armes, boughes, or branches an inch; or (as I ſee ſometimes) an handfull, or halfe a foote or more from the body: *theſe ſo cut, cannot cover in any time with ſap, and therefore they dye, and dying they periſh the heart, and ſo the tree becomes hollow, and with ſuch a deadly wound cannot live long.* Wounds.

The remedy is, if you find him before he be periſhed, cut him cloſe, as in the 11. Chapter: if he be hoal'd, cut him cloſe, fill his wound, though never ſo deep, with morter well tempere'd, & ſo cloſe at the top his wound with a Sear-cloth nailed on, that no ayre nor rain approch his wound. If he be very old and declining, he will recover; and the hole being cloſed, his wound within ſhall not him for many years. Remedy.

Hurts on your trees are chiefly Ants, Earwigs, and Caterpillars. Of Ants and Earwigs is ſaid Chap. 10. *Let there be no ſwarm of Pismires neer your tree root, no not in your Orchard: turne them over in a froſt, and pour in water, and you kill them.*

For *Caterpillars*, the vigilant Fruterer ſhall ſoon eſpy their lodging by their web, or the decay of leaves eaten round about them. And being ſeen, they are eaſily deſtroyed with your hand,

or rather (if your tree may ſpare it) take ſprig and all: for the red peckled Butter-fly doth ever put them, being her ſperm, among the tender ſprays for better feeding; eſpecially in drought: & tread them under your feet. I like nothing of ſmoke among trees. Unnaturall heats are nothing good for naturall trees. *This for Diſeaſes of particular trees.*

Externall hurts are either things naturall, or artificiall. Naturall things, externally hurting Orchards.

1 Beaſts. 1 Deer. 2 Birds. 1 Bulfinch.
2 Goats. 2 Thruſh.
3 Sheep. 3 Blackbird.
4 Hare. 4 Crowe.
5 Cony. 5 Pye.
6 Cattell.
7 Horſe. &c.

The other things are.

1 Winds.
2 Cold.
3 Trees.
4 Weeds.
5 Wormes.
6 Moales.
7 Filth.
8 Poyſonfull ſmoke.

Externall wilfull evills are theſe.

1 Walls.
2 Trenches.
3 Other workes noiſome, done in or neer your (Orchard.
4 Evill Neighbours.
5 A careleſſe Maiſter.
6 An undiſcreet, negligent, or no keeper.

See you here an whole army of miſcheifes banded in troops againſt the moſt fruitfull trees the earth bears? aſſailing your good labours. Good things have moſt enemies.

Remedy.

A Skilfull Fructerer muſt put to his helping hand, and diſband and put them to flight.

For the firſt rank of beaſts, beſides your out ſtrong fence, you muſt have a faire and ſwift Grey-hound, a Stone-bow, Gun, and

Deere, &c.

if

it need require, an Apple with an hooke for a Deer, and an hare-pipe for an Hare.

Your Cherries, and other Berries when they be ripe, will draw all the Black-birds, Thruſhes, and Mag-pies, to your Orchard. The Bull-finch is a devourer of your fruit in the bud, I have had whole trees ſhal'd out with them in winter time. Birds.

The beſt remedy here is a Stone-Bow, a Piece, eſpecially if you have a musket, or ſparhauke in winter to make the Black-bird ſtoop into a buſh or hedge.

The gardner muſt cleanſe his ſoile of all other trees, but fruit trees, as aforeſaid, *chap.* 2. for which it is ordained; & I would eſpecially name Oakes, Elms, Aſhes, and ſuch other great wood, but that I doubt it ſhould be taken as an admiſſion of leſſer *trees*: for I admit of nothing to grow in my orchard but fruite and flowers: if ſap can hardly be good to feed our fruit-trees, ſhould we allow of any other? eſpecially thoſe that will become their Maſters, and wrong them in their livelyhood.

And although we admit without the fence of wall-nuts in moſt plain places, Trees middle moſt, and aſhes or Oakes, or Elms utmoſt, ſet in comely rows equally diſtant, with fair Allyes twixt row and row, to avoid the boiſterous blaſts of winds, and within them alſo others for bees, yet we admit none of theſe into your orchard plat: other remedies then this have we none againſt the nipping froſt. Winds. Froſts.

Weeds in a fertile ſoile (becauſe the generall courſe is ſo) till your trees grow great, will be noiſome, and deforme your allies, walks, beds, and ſquares; your under-gardeners muſt labour to keep all cleanly and handſome from them, and all other filth, with a ſpade, weeding knives, rake with Iron teeth, a ſcraple of Iron thus formed, Weeds.

For Nettles, and ground Ivy after a ſhower.

When weedes, ſtraw, ſticks, and all other ſcrapings are gathered together, burn them not, but bury them under your cruſt in any place of your Orchard, and they will dye and fatten your ground.

Wormes, Moales.

Wormes and Moales open the earth, and let in ayre to the roots of your trees, and deforme your ſquares and walks; and feeding in the earth, being in number infinite, draw on barrenneſſe.

Remedy.

Wormes may eaſily be deſtroyed. Any Summer evening when it is darke, after a ſhower with a candle you may fill buſhels, but you muſt tread nimbly, and where you cannot come to catch them ſo ſift the earth with coal aſhes an inch or two thickneſſe, and that is a plague to them, ſo is ſharp gravell.

Moals will anger you, if your Gardner or ſome other moal-catcher eaſe you not; eſpecially haveing made their fortreſſes among the roots of your trees; you muſt watch her well with a Moal-ſpeare, at morne, noone, and night: when you ſee her utmoſt hill, caſt a trench betwixt her and her home (for ſhee hath a principall manſion to dwell and breed in about *April*, which you may diſcerne by a principall hill, wherein you may catch her, if you trench it round and ſure, and watch well; or whereſoever you can diſcern a ſingle paſſage (for ſuch ſhee hath) there trench, and watch, and have her.

Wilfull annoyances muſt be prevented and avoided by the love of the Maiſter and Fruterer, which they bear to their Orchard.

Juſtice and liberality will put away evill neighbours, or evill neighbour-hood. And then (if god bleſſe and give ſucceſſe to your labours) I ſee not what hurt your Orchard can ſuſtaine.

CHAP. 14.

Of the age of trees.

IT is to be conſidered, All this treatiſe of trees tends to this end, that men may love and plant Orchards, whereunto there cannot be a better inducement then that they know (or at leaſt be perſwaded) that all the benefit they ſhall reap thereby, whether of pleaſure or profit, ſhall not be for a day, or a moneth, or one, or many, but many hundred yeares. Of good things the greateſt, and moſt durable is alwayes the beſt. If therefore out of reaſon grounded upon experience, it be made (I think) manifeſt, but I am ſure probable, that a fruit tree in ſuch a ſoile and

and ſite, as is deſcribed, ſo planted and trimmed and kept, as is afore appointed, and duely ſoiled, ſhall dure a thouſand yeers, why ſhould we not take pains, and be at two or three yeers charges (for under ſeven yeers will an Orchard be perfected for the firſt planting, and in that time be brought to fruit) to reap ſuch a commodity, and ſo long laſting? The age of trees.

Let no man think this to be ſtrange, but peruſe and conſider the reaſon. I have apple trees ſtanding in my little Orchard, which I have knowne theſe fourty yeers, whoſe age before my time I cannot learn, it is beyond memory, though I have inquired of divers aged men of 80 yeers and upwards: theſe trees although come into my poſſeſſion very ill ordered, and miſhapen, and one of them wounded to his heart, and that deadly, (for I know it will be his death) with a wound, wherein I might have put my foote into the heart of his bulke, (now it is leſſe) notwithſtanding, with that ſmall regard they have had ſince, they ſo like, that I aſſure my ſelfe they are not come to their grouth by more then two parts of three, which I diſcerne not onely by their owne grouth, but alſo by comparing them with the bulk of other trees. And I find them ſhort (at leaſt) by ſo many parts in bigneſſe, although I know thoſe other fruit-trees to have been much hindered in their ſtature by evill guiding. Herehence I gather thus. Gathered by reaſon out of experience.

If my trees be a hundred yeers old, and yet want two hundred of their grouth before they leave encreaſing, which make three hundred, then muſt we needs reſolve, that this three hundred yeers are but the third part of a trees life: becauſe (as all things living beſides) ſo trees muſt have allowed them for their increaſe one third, another third for their ſtand, and a third part of time alſo for their decay. All which time of a tree amounts to nine hundred years; three hundred for increaſe, three hundred for his ſtand, whereof we have the tearme ſtature, and three hundred for his decay: and yet I thinke (for we muſt conjecture by comparing, becauſe no one man liveth to ſee the full age of trees) I am within the compaſſe of his age, ſuppoſing alwaies the fore ſaid meanes of preſerving his life. Conſider the age of other living creatures. The Horſe, and moiled Oxe, wrought to an untimely death, yet double the time of their in- Parts of a trees age.

increaſe. A dog likewiſe increaſeth three, ſtands three at leaſt, and in as many (or rather more) decayes.

Mans age. Every living thing beſtowes the leaſt part of his age in his growth and ſo muſt it needs be with trees. A man comes not to his full growth and ſtrength (by common eſtimation) before thirty yeares; and ſome ſlender and clean bodies, not till forty: ſo long alſo ſtands his ſtrength, and ſo long alſo muſt he have allowed by courſe of nature to decay. Ever ſuppoſing that he be well kept with neceſſaries and from and without ſtraines, bruiſes and all other dominering diſeaſes. I will not ſay upon true report, that Phyſick holds it poſſible, that a clean body kept by theſe three Doctors, *Doctor Dyet*, *Doctor Quiet*, and *Doctor Merriman*, may live neer a hundred yeares. Neither will I here urge the long yeares of *Methuſalah*, and thoſe men of that time, becauſe you will ſay, Mans daies are ſhortned ſince the flood. But what hath ſhortned them? God for mans ſins: but by meanes, as want of knowledge, evill government, riot, gluttony, drunkenneſſe, and (to be ſhort) the encreaſe of the curſe, our ſins increaſing in an iron and wicked age.

Now if a man, whoſe body is nothing (in a manner) but tender rottenneſſe, whoſe courſe of life cannot by any meanes, by counſell, reſtraint of Lawes, or puniſhment, nor hope of praiſe, profit, or eternal glory, be kept within any bounds, who is degenerate clean from his natural feeding, to effeminate niceneſs, and cloying his body with exceſs of meat, drink, ſleep &c. and to whom nothing is ſo pleaſant and ſo much deſired, as the cauſes of his owne death, as idleneſs, luſt, &c. may live to that age: I ſee not but a tree of a ſolid ſubſtance, not damnified by heat or cold, capable of, and ſubject to any kind of ordering or dreſſing that a man ſhall apply unto him, feeding naturally, as from the beginning, diſburdened of all ſuperfluities, eaſed of, and of his owne accord avoiding the cauſes that may annoy him, ſhould double the life of a man, more then twice told; and yet natural Philoſophy, and the univerſal conſent of all Hiſtories tell us, that many other living creatures far exceed man in length of yeares: As the Hart, and the Raven. Thus reporteth that famous *Roterdam* out of *Heſiodus*, and many other Hiſtoriographers. The teſtimony of *Cicero* in his book *De Senectute*, is weighty to this

this purpose: that we must *in posteras etates ferere arbores*, which can have none other sense, but, that our fruit-trees whereof he speakes, can indure for many ages.

What else are trees, in comparison with the earth, but as haires to the body of a man? And it is certain, without poisoning, evill and distemperate dyet, and usage, or other such forcible cause, the hairs dure with the body. That they be called excrements, it is by reason of their superfluous growth: (for cut them as often as you list, and they will still come to their naturall length) Not in respect of their substance, and nature. Haires endure long, and are an ornament, and use also to the body, as trees to the earth.

So that I resolve upon good reason, that fruit-trees well ordered, may live and like a thousand yeares, and beare fruit; and the longer, the more, the greater, and the bettter, because his vigour is proud and stronger, when his yeers are many. Youshall see old trees put forth their buds and blossomes both sooner and more plentifully then young trees, by much. And I sensibly perceive my young trees to inlarge their fruit as they grow greater, both for number and greatnesse. Young Heifers bring not forth Calves so fair, neither are they so plentifull to milke, as when they become to be old Kine. No good Houf-wife will breed of a young, but of an old breed mother: It is so in all things naturally, therefore in trees.

The age of Timber trees.

And if fruit trees last to this age, how many ages is it to be supposed, strong, and huge timber-trees will last? whose huge bodies require the yeares of divers *Methusalaes*, before they end their dayes, whose sap is strong and bitter, whose bark is hard and thicke, and their substance solid and stiffe: all which are defences of health and long life. Their strength withstands all forcible winds, their sap of that quality is not subject to wormes and tainting. Their bark receives seldome or never by casualty any wound. And not only so, but he is free from removals, which are the death of millions of trees, where as the fruit-tree in comparison is littleand often blowne down, his sap sweet; easily, and soon tainted, his barke tender, and soon wounded, and himself used by man, as man useth himself, that is, either unskillfully or careleslely.

It

Age of trees discerned.

It is good for ſome purpoſes to regard the age of your fruit trees, which you may eaſily know, till they come to accompliſh twenty yeers, by his knots: Reckon from his root up an arme, and ſo to his top-twig, and every yeers grouth is diſtinguiſhed from other by a knot, except lopping or removing doe hinder.

CHAP. XV.

Of gathering and keeping fruit.

Generall rule,

ALthough it be an eaſie matter, when God ſhall ſend it, to gather and keep fruit, yet are they certaine things worthy your regard. You muſt gather your fruit when it is ripe, and not before, elſe will it wither, and be tough and ſower. All fruit generally are ripe, when they begin to fall. For trees doe as all other bearers doe, when their young ones are ripe, they will wain them. The Dove her Pigeons, The Coney her Rabbets, and women their Children. Some fruit-trees ſometimes getting a taint in the ſetting with a froſt or evill wind, will caſt his fruit untimely, but not before he leave giving them ſap, or they leave growing. Exeept from this foreſaid rule, Cherries, Damſons, & Bullyes. The Cherry is ripe when he is ſwelled, wholly red, and ſweet. Damſons and Bullies not before the firſt froſt.

Cherris, &c.

Apples are knowne to be ripe, partly by their colour, growing towards a yellow, except the Leather-coate, and ſome Peares, and greenings.

Apples.

Wheat.

Timely Summer fruit will be ready, ſome at midſummer, moſt at Lammas for preſent uſe; but generally no keping fruit before *Michael tide*. Hard winter fruit, and wardens longer.

Dry ſtalkes.

Gather at the full of the moone for keeping, gather dry for feare of rotting.

Severally.

Gather the ſtalks withall: for a little wound in fruit is deadly, but not the ſtump, that muſt bear the next fruit, nor leaves, for moiſture putrifies.

Over laden trees

Gather every kind ſeverally by it ſelf, for all will not keep alike, and it is hard to diſcerne them, when they are mingled.

If your trees be over laden (as they will be, being ordered, as is before taught) I like better of pulling ſome off (though they be

be not ripe) neer the top end of the bough, then of propping by much, the reſt ſhall be better fed. Propping puts the boughs in danger, and frets it at leaſt.

Inſtruments.

Inſtruments: A long ladder of light firre, a ſtoole ladder as in the eleventh chapter. A gathering apron like a poake before you, made of purpoſe, or a Wallet hung on a bough, or a baſket with a five bottome, or skinne bottome, with lathes or ſplinters under, hung in a rope to pull up and downe: bruiſe none, every bruiſe is to fruite death: if you doe, uſe them preſently: an hooke to pull boughes to you is neceſſary, break no boughes.

Bruiſes.

Keeping.

For keeping, lay them in a dry loft, the longeſt keeping Apples firſt and furtheſt one dry ſtraw, on heaps ten or fourteene dayes, thicke, that they may sweat. Then dry them with a ſoft and cleane cloth, and lay them thin abroad. Long keeping fruit would be turned once in a month ſoftly: but not in, nor immediatly after froſt. In a loft cover well with ſtraw, but rather with chaffe or branne: For froſt doth cauſe tender rottenneſſe.

CHAP. 16.

Of profits.

NOw pauſe with your ſelfe, and view the end of all your labours in an Orchard: unſpeakable pleaſure, and infinite commodity. The pleaſure of an Orchard I refer to the laſt chapter for the concluſion, & in this chapter, a word or two of the profit, which thorowly to declare is paſt my skill: & I accountit as if a man ſhould attempt to adde light to the Sun with a candle, or number the ſtarres. No man that hath but a mean Orchard or judgment but knowes, that the commodity of an Orchard is great: Neither would I ſpeak of this, being a thing ſo manifeſt to all; but that I ſee, that through the careleſneſs of men, it is a thing generally neglected. But let them know, that they looſe hereby the chiefeſt good which belongs to houſe-keeping.

Compare the commodity that commeth of halfe an acre of ground, ſet with fruite-trees and hearbs, ſo as is preſcribed, and an whole acre (ſay it be two) with corn, or the beſt commodity you can wiſh, and the orchard ſhall exceed by divers degrees.

Cyder and Perry.

In *France* and ſome other countries, and in *England*, they make great uſe of Cidar and Perry, thus made, dreſſe every apple, the ſtalke, upper end, and all galls away, ſtamp them, and

ſtraine them, and within twenty four howers tun them up into clean, ſweet, and ſound veſſels, for fear of evill ayre, which they will readily take: and if you hang a poakefull of Cloves, Mace, Nutmegs, Cinamon, Ginger, and pils of Lemons in the mideſt of the veſſell, it will make it as wholeſome & pleaſant as wine. The like uſage doth Perry require.

Fruit. These drinks are very wholeſome, they coole, purge, and prevent hot agues. But I leave this skill to Phyſitians.

Waters. The benefit of your Fruit, Roots and Herbs, though it were but to eat and ſell, is much.

Waters diſtilled of Roſes, Woodbind, Angelica, are both profitable and wondrous pleaſant, and comfortable.

Conſerve. Saffron and Licoras will yeeld you much conſerves, and preſerves, are ornaments to your feaſts, health in your Sickneſſe, and a good help to your freind, and to your purſe.

He that will not be moved with ſuch unſpeakable profits, is well worthy to want, when others abound in plenty of good things.

CHAP. 17.

Ornaments.

Me thinkes hitherto we have but a bare Orchard for fruit, and but halfe good, ſo long as it wants thoſe comely Ornaments, that ſhould give beauty to all our labours, and make much for the honeſt delight of the owner and his freinds.

Delight the cheife end of Orchards. For it is not to be doubted, but as God hath given man things profitable, ſo hath he allowed him honeſt comfort, delight, and recreation in all the works of his hands. Nay, all his labours under the Sun without this are troubles, and vexations of mind: For what is greedy gaine, without delight, but moyling, and turmoiling in ſlavery? But comfortable delight, with content, is the good of every thing, and the pattern of heaven. A morſell of bread with comfort, is better by much then a fat Oxe with unquietneſſe. And who can deny but the Principall end of an Orchard, is the honeſt delight of one wearied with the workes of his lawfull calling? The very works of, and in an Orchard and Garden, are better then the eaſe and reſt of, and from other labours. When God had made man after his owne

An Orchard delightſome.

Image,

Image, in a Perfect ſtate, and would have him to repreſent himſelfe in authority, tranquility, and pleaſure upon the earth; he placed him in *Paradiſe*. What was *Paradiſe*? but a Garden and Orchard of trees and hearbs, full of pleature? and nothing there but delights. The gods of the earth reſembling the great God of heaven in authority, Maieſty and abundance of all things, wherein is their moſt delight? and whither do they withdraw themſelves from the troubleſome affairs of their eſtate, being tyred with the hearing and judging of litigious controverſies, choaked (as it were) with the cloſe ayre of their ſumptuous buildings, their ſtomacks cloyed with variety of Banquets, their ears filled and overburthened with tedious diſcourſings? whether? but into their Orchards? made and prepared, dreſſed and deſtinated for that purpoſe, to renew and refreſh their ſenſes, and to call home their over-wearied ſpirits. Nay, it is (no doubt) a comfort to them, to ſet open their caſements into a moſt delicate Garden and Orchard, whereby they may not onely ſee that, wherein they are ſo much delighted, but alſo to give freſh, ſweet, and pleaſant aire to their Galleries and chambers.

An Orchard in Paradiſe.

Cauſes of wearineſſe.

Orchard is the remedy.

And look what theſe men do by reaſon of their greatneſſe and ability, provoked with delight, the ſame doubtleſſe would every of us doe, if power were anſwerable to our deſires: whereby we ſhew manifeſtly, that of all other delights on earth, they that are taken by Orchards are moſt excellent and moſt agreeing with nature.

All delight in Orchards.

For whereas every other pleaſure commonly fills ſome one of our ſenſes, and that onely, with delight, this makes all our ſenſes ſwim in pleaſure, and that with infinite variety, joyned with no leſe commodity.

This delights all the ſenſes.

That famous *Philoſopher*, and matchleſſe Oratour, *M.T. C.* preſcribeth nothing more fit, to take away the tediouſneſſe of three or foureſcore yeers, then the pleaſure of an Orchard.

Delighteth old age.

What can your eye deſire to ſee, your ears to heare, your mouth to taſt, or your noſe to ſmell, that is not to be had in an Orchard, with abundance of variety? What more delightſome then an infinite variety of ſweet ſmelling flowers? decking with ſundry colours, the green mantle of the earth, the univerſall

Cauſes of delight in any Orchard.

mother of us all, ſo by them beſpotted, ſo dyed, that all the world cannot ſample them, and wherein it is more fit to admire the dyer, then imitate his workmanſhip, colouring not onely the earth, but decking the aire, and ſweetning every breath and ſpirit.

Flowres. The Roſe red, damask, velvet, and double double province Roſe, the ſweet musk Roſe double and ſingle, the double and ſingle white Roſe, The faire and ſweet-ſenting woodbine, double and ſingle, and double double. Purple Cowſlips, and double Cowſlips, and double double Cowſlips, Primroſe double and ſingle. The Violet nothing behind the beſt, for ſmelling ſweetly. A thouſand more will provoke your content.

Borders and ſquares. And all theſe by the skill of your Gardner, ſo comely and orderly placed in your borders and ſquares, and ſo intermingled, that none looking thereon cannot but wonder, to ſee what nature corrected by Art can doe.

Mounts. When you behold in diverſe corners of your Orchard *Mounts* of ſtone or wood, curiouſly wrought within and without, or of earth covered with fruit trees, Kentiſh Cherries, damſoms, Plums, &c. with ſtaires of precious workmanſhip; and in ſome corner (or moe) a true diall or clock, and ſome Antickworks, and eſpecially ſilver-ſounding Muſick, mixt inſtruments and voyces, gracing all the reſt: How will you be wrapt with Delight?

whence you may ſhoot a Buck.
Diall.
Muſick.

Large Walks, broad and long, cloſe and open, like the *Tempe* groves in *Theſſaly*, raiſed with gravell and ſand, having ſeats and banks of Cammomile, all this delights the mind, and brings health to the body.

walks.
Seats.

View now with delight the works of your owne hands, your fruit-trees of all ſorts, loaden with ſweet bloſſomes, and fruit of all taſts, operations and colours: your trees ſtanding in comely order which way ſoever you look.

Order of trees.

Your borders on every ſide hanging and drooping with Feberries, Raſpberries, Barberries, Currents, and the roots of your trees powdred with Strawberries, red, white and green, what a pleaſure is this? Your Gardner can frame your leſſer wood to the ſhape of men armed in the field, ready to give battell: or ſwift running Greyhounds, or of well ſented and true running

Shape of men and beaſts.

Hounds

Hounds to chaſe the Deer, or hunt the Hare. This kind of hunting ſhall not waſt your corne; nor much your coyne.

Mazes well framed a mans height, may perhaps make your friend wander in gathering of berries till he cannot recover himſelf without your help. Mazes.

To have occaſion to exerciſe within your Orchard: it ſhall be a pleaſure to have a bowling Alley, or rather (which is more manly, and more healthfull) a paire of Buts to ſtretch your armes. Bowling-Alley. Buts.

Roſemary and ſweet Eglantine are ſeemly ornaments about a Doore or Window, and ſo is Woodbine. Herbes

Look Chapt. 5. and you ſhall ſee the forme of a Conduit. If there were two or more it were not amiſs. Conduit.

And in mine owne opinion I could highly commend your Orchard, if either through it, or hard by it, there ſhould runne a pleaſant River with ſilver ſtreams: you might ſit in your Mount, and angle a peckled Trout, or ſleighty Eel, or ſome other dainty Fiſh. Or moats, whereon you might row with a Boat, and fiſh with Nets. River. Moats.

Store of Bees in a dry and warm Bee-houſe, comely made of Fir boards to ſing, and ſit, and feed upon your flowers and ſprouts, make a pleaſant noyſe and fight. For cleanly and innocent Bees, of all other things, love and become, and thrive in an Orchard. If they thrive (as they muſt needs) if your Gardner be skilfull, and love them: for they love their friends, and hate none but their enemies) they will beſides the pleaſure, yield great profit to pay him his wages. Yea, the increaſe of twenty Stocks or Stooles, with other fees, will keep your Orchard. Bees.

You need not doubt their ſtings, for they hurt not whom they know, and they know their keeper and acquaintance. If you like not to come amongſt them, you need not doubt them: for but near there ſtore, and in their owne defence, they will not fight, and in that caſe onely (and who can blame them?) they are manly, and fight deſperately. Some (as that honourable Lady at *Hacknes*, Whoſe name doth much grace mine Orchard, uſe to make ſeats for them in the ſtone walls of their Orchard, or Garden, which is good; but wood is better.

A Vine overſhadowing a ſeat, is very comely, though her Grapes with us ripen ſlowly. Vine.

One

Birds. Nightingale.

One chiefe grace that adornes an Orchard, I cannot let slip: a brood of Nightingales, who with severall notes and tunes, with a strong delightsome voyce out of a weak body, will bear you company night and day. She loves (and lives in) hots of woods in her heart. She will help you to cleanse your trees of Caterpillers, and all noysome wormes and flies. The gentle Robin-red-brest will help her, and in winter in the coldest storms will keep a part. Neither will the silly Wren be behind in Summer, with her distinct whistle, (like a sweet Recorder) to cheare your spirits.

Robin red-breast.

Wren.

Black-bird. Thrush.

The Black-bird and Threstle (for I take it, the Thrush sings not, but devours) sing loudly in a *May* morning, and delights the eare much, and you need not want their company, if you have ripe Cherries or Berries, and would as gladly as the rest doe your pleasure: but I had rather want their company than my fruit.

What shall I say? A thousand of pleasant delights are attendin an Orchard; and sooner shall I be weary, then I can reckon the least part of that pleasure which one that hath, and loves an Orchard, may find therein.

What is there of all these few that I have reckoned, which doth not pleasure the eye, the eare, the smell, and tast? And by these senses as Organs, Pipes, and windows, these delights are carried to refresh the gentle, generous, and noble mind.

You owne labour.

To conclude, what joy may you have, that you living to such an age, shall see the blessings of God on your labours while you live, and leave behind you to heirs, or successors (for God will make heirs) such a work, that many ages after your death, shall record your love to their Countrie? And the rather, when you consider (*Chap.* 14.) to what length of time your worke is to last.

FINIS.

THE COUNTRY HOVSE-WIVES GARDEN,

Containing Rules for herbs, and Seeds, of common uſe, with their times and ſeaſons when to ſet and ſow them.

Together,

With the Husbandry of Bees, publiſhed with ſecrets very neceſſary for every *Houſwife:* as alſo divers new Knots for Gardens.

The Contents ſee at large in the laſt Page.

Geneſ. 2. 29.

I have given unto you every Herb, and every tree, that ſhall be to you for meat.

LONDON,

Printed by *W. Wilſon*, for *E. Brewſter*, and *George Sawbridge*, at the Bible on Ludgate-Hill, neere Fleet-bridge. 1653.

THE COUNTRY HOUSE-WIVES GARDEN,

THE COUNTRY HOVSWIFES GARDEN.

CHAP. 1.

The Soyle.

THe ſoyl of an Orchard and Garden differ onely in theſe three points: Firſt, the Gardens ſoil would be ſomewhat dryer, becauſe herbs being more tender then trees, can neither abide moyſture nor drought, in ſuch exceſſive meaſure, as trees; and therefore having a drier ſoyle, the remedy is eaſie againſt drought, if need be: water ſoundly; which may be done with ſmall labour, the compaſs of a Garden being nothing ſo great, as of an Orchard: and this is the cauſe (if they know it) that Gardners raiſe their ſquares: but if moyſture trouble you, I ſee no remedy without a generall danger, except in Hops, which delight much in a low and ſapyp earth. Dry. Hops.

Secondly, the ſoyl of a Garden would be plaine and levell, at leaſt every ſquare (for we purpoſe the ſquare to be the fitteſt form) the reaſon is the earth of a garden wanting ſuch helps, as ſhould ſtay the water, which an orchard hath, and the roots of herbs being

ing mellow and loose, is soon either washt away, or sends out his heart by too much drenching and washing.

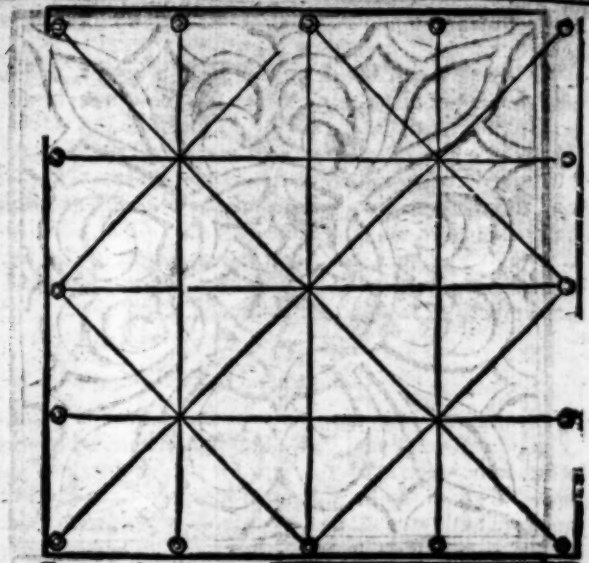
Thirdly, if a garden soil be not clear of weeds, and namely of grass, the herbs shall never thrive: for how should good herbs prosper, when evill weeds wax so fast: considering good herbs are tender in respect of evill weeds: these being strengthened by nature, and the other by art? Gardens have small place in comparison, and therefore may more easily be followed, at the least one half year before, and the better dressed after it is framed. And you you shall find that clean keeping doth not only avoid danger of gathering weedes, but also is a speciall ornament, and leaves more plentifull sap for your tender herbs.

CHAP. 2.
Of the Sites.

I Cannot see in any sort, how the site of the one should not be good, and fit for the other: The ends of both being one, good, wholesome, and much fruit joyned with delight, unlesse trees be more able to abide the nipping frosts than tender herbs: but I am sure, the flowers of trees are as soon perished with cold: as any herbe except Pumpions, and Melons.

CHAP. 3.
Of the Forme.

LEt that which is said in the Orchards forme, suffice for a garden in generall: but for speciall formes in squares, they are as many, as there are devices in Gardners brains. Neither is the wit and art of a skilfull Gardner in this point not to be commended, that can work more variety for breeding of more delightsome choice, and of all those things, where the owner is able and desirous to be satisfied. The number of formes, Mazes and Knots is so great, and men are so diversly delighted, that I leave every House-wife to her selfe, especially seeing to set downe many, had been but to fill much paper; yet lest I deprive her of all delight and direction, let her view these few, choose, new forms; and note this generally, that all plots are square, and all are bordered about with Privit, Raisins, Sea-berries, Roses, Thorne, Rosemary, Bee-flowers, Isop, Sage or such like.



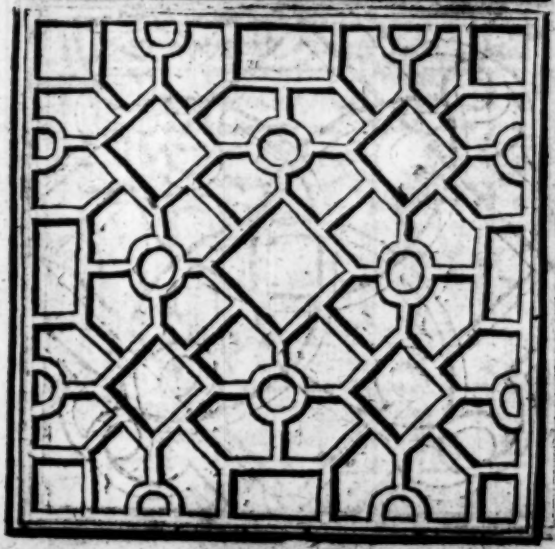
The ground plot for Knots.

Cinkfoile.

Flower-deluce.

The Trefoyle.

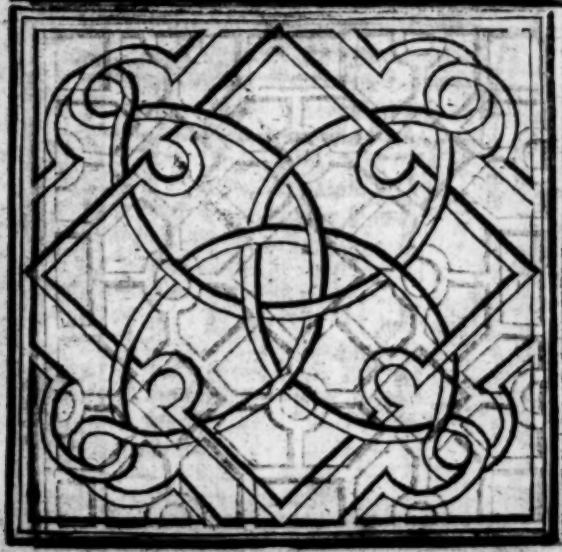
The fret.



Lozenges

Crossebow.

Diamond.



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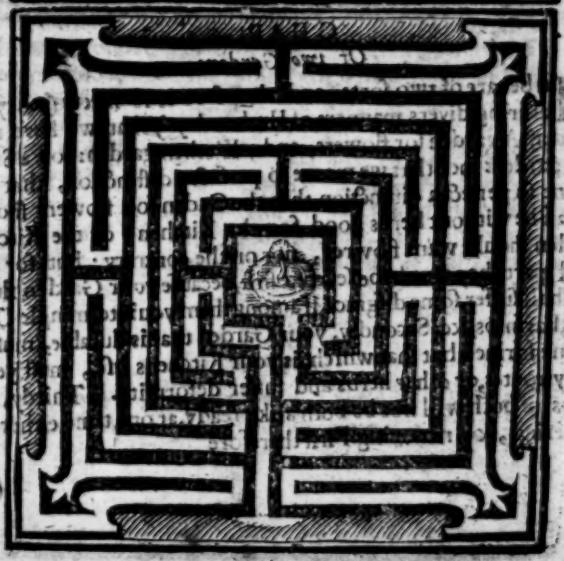


Maze.

CHAP. 4.
Of the Quantity.

A Garden requireth not ſo large a ſcope of ground as an Orchard, both in regard of the much weeding, dreſſing and removing, and alſo the paine in a Garden is not ſo well repayed home, as in an Orchard: It is to be granted, that the Kitchin garden doth yeeld rich grains, by berries, roots, cabbages, &c. yet theſe are no way comparable to the fruits of a rich Orchard: But notwithſtanding I am of opinion, that it were better for *England* that we had more Orchards and Gardens, and more large. And therefore we leave the quantity to every mans ability and will.

CHAP. 5.
Of Fence.

SEeing we allow Gardens in Orchard-plots, and the benefit of a Garden is much, they both require a ſtrong and ſhrowding fence. Therefore leaving this, let us come to the Herbs themſelves, which muſt be the fruit of all theſe labours.

CHAP. 6.
Of two Gardens.

Herbes are of two ſorts, and therefore it is meete (they requiring divers manners of Husbandry) that we have two Garden: A garden for flowers, and a Kitchen garden: or a Summer garden: not that we meane ſo perfect a diſtinction, that wee meane ſo perfect a diſtinction, that the Gaden for flowers ſhould or can be without herbs good for the Kitchen, or the Kitchen garden ſhould want flowres, nor on the contrary: but for the moſt part they would be ſevered: firſt, becauſe your Garden flowers ſhall ſuffer ſome diſgrace, if among them you intermingle Onions, Parſnips, &c. Secondly, your Garden that is durable, muſt be of one forme: but that which is your Kitchens uſe, muſt yeeld daily rootes, or other herbs and ſuffer deformity. Thirdly, the herbs of both will not be both alike ready, at one time, either for gathering, or removing. Firſt therefore

Of

Of the Summer Garden.

THeſe herbs and flowers are comely and durable for ſquares & Knots, and all to be ſet at *Michaeltide*, or ſomewhat before, that they may be ſetled in, and taken with the ground before winter, though they may be ſet, eſpecially ſowne in the ſpring.

Roſes of all ſorts (ſpoken of in the Orchard) muſt be ſet. Some uſe to ſet ſlips and twine them, which ſometimes, but ſeldome, thrive all.

Roſemary, Lavender, Bee-flowers, Iſop, Sage, Time, Cowſlips Pyony, Daiſies, Clove-Gilliflowers, Pinks, Sothernwood, Lillies of all which hereafter.

Of the Kitchen Garden.

THough your Garden for flowers doth in a ſort peculiarly challenge to it ſelf a profit, and exquiſite forme to the eyes, yet you may not altogether neglect this, where your herbs for the pot do grow. And therefore ſome here make comely borders with the hearbs aforeſaid. The rather becauſe abundance of Roſes and Lavender, yeeld much profit, and comfort to the ſences. Roſe-water Lavender, the one cordiall (as alſo the Violets, Burrage, and Buglas (the other reviving the ſpirits by the ſence o ſmelling: both moſt durable for ſmell, both in flowers and water: you need not here raiſe your beds, as in the other garden, becauſe Summer towards, will not let too much wet annoy you.

And theſe hearbs require more moyſture: yet muſt you have your beds divided, that you may goe betwixt to weed, and ſomewhat of forme would be expected: To which it availeth that you place your herbs of biggeſt growth, by walles, or in borders, as Fennell, &c. and the loweſt in the middeſt, as Saffron, Strawberries, Onions, &c.

CHAP. 7.

Diviſion of Herbs.

GArden herbs are innumerable, yet theſe are common, and ſufficient for our Country-houſwives.

Herbs of greateſt growth.

Fennell, Angelica, Tanſie, Hollihock, Lovage, Elicampane, French Mallowes, Lilies, French Popple, Endive, Succory, and Clary.

Herbs of middle growth.

Burrage, Bugloſſe, Parſly, Sweet Sicily, Flower-deluce, Stock-gilliflowers, Wall-flowers, Anniſeeds, Coriander, Feather-few, Marigolds, Oculus Chriſti, Langdibeef, Alexanders, Carduus Benedictus.

Herbs of ſmalleſt growth.

Panſie, or Harts-eaſe, Coaſt-Marjoram, Savery, Strawberries, Saffron, Licoras, Daffadowndillies, Leeks, Chives, Chibbals, Skerots, Onions, Batchelors buttons, Daſies, Peniroyal.

Hitherto I have onely reckoned up, and put in this rank, ſome Herbs: their Husbandry follows, each in an Alphabetical order, the better to be found.

CHAP. 8.

Husbandry of Herbs.

ALexanders are to be renewed as Angelica. It is a timely pot-herb.

Angelica is renewed with his ſeed, whereof he beareth plenty the ſecond year and ſo dieth. You may remove the roots the firſt year. The leaves diſtilled, yeild water ſoveraign to expell paine from the ſtomacke. The roote dried taken in the fall, ſtoppeth the pores againſt infections.

Anniſeeds make their growth, and bear ſeeds the firſt yeere and dieth as Coriander: it is good for opening the piper, & it is uſed in Comfits.

Artichoakes are renewed by dividing the rootes into ſets, in *March*, every third or fourth year. They require a ſeveral uſage, and therefore a ſeverall whole plot by themſelves, eſpecially conſidering they are plentifull of fruit much deſired.

Burrage and Bugleſſe two Cordials renew themſelves by ſeed yearely, which is hard to be gathered, they are exceeding good Potherbs, good for Bees, and moſt comfortable for the heart and ſtomack, as Quinces and Wardens.

Camomile, ſet roots in banks and walks. It is ſweet ſmelling, qualifying head-ach.

Cab-

Cabbages require great roome, they ſeed the ſecond year, ſow them in *February*, remove them when the plants are an handfull long, ſet deep and wet, Look well in drought for the white Caterpillers worme, the ſpaunes under the leaf cloſely: for every living Creature doth ſeek food and quiet ſhelter, and growing quick they draw to, and eat the heart: you may find them in a rainy dewy morning.

It is a good Pothearbe, and of this hearb called *Cole*, our Country Houſe-wives give their pottage their name, and call them *Caell*.

Carduus Benedictus, or bleſſed thiſtle, ſeeds and dyes the firſt year, the excellent vertue thereof I refeare to Herbals, for we are Gardiners, not Phyſicians.

Carrets are ſowne late in *Aprill* or *May*, as Turneps, elſe they ſeed the firſt year, & then their roots are naught: the ſecond year they dye, their roots grow great, and require large roome.

Chibals or Chives have their roots parted, as Garlick, Lillies, &c. and ſo are they ſet every third or fourth year: a good pothearb opening, but evill for the eyes.

Clary is ſowne, it ſeedes the ſecond year, and dyes. It is ſomewhat harſh in taſt, a little in pottage is good, it ſtrengtheneth the reines.

Coaſt, Root parted, make ſets in *March*: it beares the ſecond year: it is uſed in Ale in *May*.

Coriander is for uſage and uſes, much like Anniſeeds:

Daffadowndillies have their roots parted and ſet once in three or four year, or longer time. They flower timely, and after *Midſummer* are ſcarcely ſeene. They are more for Ornament, then for uſe, ſo are Daiſies.

Daiſie roots parted and ſet, as Flowre deluce and Camomile, when you ſee them grow too thicke or decay. They be good to keep up, and ſtrengthen the edges of your borders, as Pinks, they be red, white, mixt.

Ellycampane root is long laſting, as is the Lovage, it ſeeds yearely, you may divide the root, and ſet the root, taken in winter it is good (being dryed, powdered and drunk) to kill itches.

Endive and Succory are much like in nature, ſhape, and uſe,

they renue themſelves by ſeed, as Fennell, and other herbs. You may remove them before they put forth ſhanks, a good Pot-herbe.

Fennell is renewed, either by the ſeeds (which it beareth the ſecond yeer, and ſo yeerly in great abundance (ſown in the fall or Spring; or by dividing one root into many Sets, as Artichoke. It is long of growth and life. You may remove the root unſhankt: It is exceeding good for the eyes, diſtilled, or any otherwiſe taken: it is uſed in dreſſing Hives for ſwarmes, a very good Pot-hearb, or for Sallets.

Fetherfew ſhakes ſeed. Good againſt a ſhaking Fever, taken in a poſſet drink faſting,

Flower deluce, long laſting, Divide his roots, and ſet: the roots dryed have a ſweet ſmell.

Garlick may be ſet an handfull diſtance, two inches deep, in the edge of your beds. Part the head into ſeverall cloves, and every clove ſet in the latter end of *February*, will increaſe to a great head before *September*: good for opening, evill for eyes: when the blade is long, faſt two & two together, the heads will be bigger.

Hollihock riſeth high, ſeedeth and dyeth, the chief uſe I know is ornament.

Iſop is reaſonable long laſting: young roots are good ſet, ſlips better. A good pot-hearbe.

July-flowers, commonly called Gilly flowers, or Clove July-flowers (I call them ſo, becauſe they flowre in July) they have the name of Cloves, of their ſent. I may well call them the King of flowers except the Roſe) & the beſt ſort of thē are called Queen-July flowers. I have of them nine or ten ſeveral colours, & divers of them as big as Roſes; of all flowers (ſave the Damaske Roſe) they are the moſt pleaſant to ſight & ſmel: they laſt not paſt three or four yeers unremoved. Take the ſlips (without ſhanks) and ſet any time, ſave in extreame froſt, but eſpecially at *Michael-tide*. Their uſe is much in ornament, and comforting the ſpirits, by the ſence of ſmelling.

July-flowers of the wall, or wall-July-flowers, Wall flowers or Bee-flowers, or Winter-July-flowers, becauſe growing in the walls even in winter, and good for Bees, will grow even in ſtone-

walls

walls, they will ſeem dead in Summer, & yet revive in Winter. They yeeld ſeed plentifully, which you may ſow at any time, or in any broken earth, eſpecially on the top of a mud-wall, but moiſt, you may ſet the root before it be brancht, every ſlip that is not flowr'd will take root; or crop him in Summer, and he will flower in winter, but his winter ſeed is untimely. This and Palmes are exceeding good, and timely for Bees.

Leeks yeeld ſeed the ſecond yeer, unremoved; and dye, unleſſe you remove them, uſuall to eate with ſalt and bread, as Onyons alwaies green, good pot-herb, evill for the eyes.

Lavender-Spike would be removed within ſeven yeers, or eight at the moſt: ſlips twined, as Hyſope and Sage, would take beſt at *Michael-tide*. This flower is good for Bees, moſt comfortable for ſmelling, except Roſes: and kept dry, is as ſtrong after a yeere, as when it is gathered. The water of this is comfortable.

White *Lavender* would be removed ſooner.

Lettice yeelds ſeed the firſt yeer, and dyes: ſow betime; and if you would have them Cabbage for ſallets, remove them as you doe Cabbage. They are uſuall in Sallets and the pot.

Lillies white and red, removed once in three or foure yeers, their roots yeeld many ſets, like the Garlicke. *Michael-tide* is the beſt. They grow high, after they get root. Theſe roots are good to breake a byle, as are Mallows and Sorrel.

Mallowes, French or gagged, the firſt or ſecond yeer, ſeed plentifully. Sow in *March*, or before. They are good for the houſewifes pot, or to break a bunch.

Marigolds, moſt commonly come of ſeed, you may remove the Plants when they be two inches long. The double Marigold, being as bigge as a little Roſe, is good for ſhew. They are a good Pot-herb.

Oculus Chriſti, or Chriſts eye, ſeedes and dyes the firſt or ſecond yeer: you may remove the young Plants, but ſeed is better. One of theſe ſeeds put into the eye, within three or fower howers will gather a thick skinne, cleere the eye, and bolt it ſelfe forth without hurt to the eye. A good Pot-herbe.

Onyons are ſowne in *February*, they are gathered at *Michael-tide*, and all the Summer long, for Sallets; as alſo young parſly,

Sage, Chibals, Lettice, ſweet Sicily, Fennell, &c. good alone, or with meate, as muttons, &c. for ſawce, eſpecially for the pot.

Parſly ſow the firſt yeer, and uſe the next yeer: it ſeeds plentifully, an hearb of much uſe, as ſweet ſicily is. The ſeed and roots are good againſt the ſtone.

Parſneps require an whole plot, they be plentifull and common, ſow them in *February*, the kings (that is in the middle) ſeed broadeſt and reddeſt. Parſneps are ſuſtenance for a ſtrong ſtomacke, not good for evill eies: When they cover the earth, in a drought, to tread the tops, make the roots bigger.

Penny-royall, or pudding graſſe, creeps along the ground, like ground Ivie. It laſts long, like daiſies, becauſe it puts and ſpreads daily new roots. Divide, and remove the roots, it hath a pleaſant taſt and ſmel, good for the pot, or hacktmeat, or Haggas pudding.

Pumpions: Set ſeeds with your finger, a finger deep, late in *March*, and ſo ſoone as they appeare, every night if you doubt froſt, cover them, and water them continually out of a water pot: they be very tender, their fruit is great and wateriſh.

French Poppy beareth a great flower, and the ſeed will make you ſleep.

Raddiſh is ſauce for cloyed ſtomacks, as Capers, Olives and Cucumbers, caſt the ſeeds all Summer long here and there, and you ſhall have them alwaies young and freſh.

Roſemary, the grace of hearbs here in England, in other Countries common. To ſet ſlips immediatly after *Lammas*, is the ſureſt way. Seed ſown may prove well, ſo they be ſowne in hot weather, ſomewhat moiſt, and good earth: for the hearbe, though great, is neſh and tender (as I take it) brought from hot Countries to us in the cold North: ſet thin, it becomes a window well. The uſe is much in meats, more in phyſick, moſt for Bees.

Rue, or hearb of grace, continually greene, the ſlips are ſet. It laſts long as Roſemary, Sothernwood, &c. too ſtrong for mine Houſewifes pot, unleſſe ſhe will brew Ale therewith, againſt the plague: let him not ſeed if you will have him laſt.

Saffron, every third yeare his roots would be removed at *Midſummer*, for when all other hearbs grow moſt, it dyeth. It flowreth at *Michael-tide*, and groweth all winter: keep his flowers from birds in the morning, and gather the yellow (or they

they ſhape much like Lillies) dry, and after dry them: they be pretious, expelling diſeaſes from the heart and ſtomack.

Savery ſeeds and dyes the firſt yeare, good for my Houſewifes pot and pye.

Sage, ſet ſlips in *May*, and they grow aye; Let it not ſeed, it will laſt the longer. The uſe is much and common. The Monkiſh proverb is *tritum*.

Cur moritur homo, cui ſalvia creſcit in horto?

Skerets, the roots are ſet when they be parted, as *Pionie*, and Flower-deluce at *Michael-tide*, the root is but ſmall and very ſweet. I know none other ſpeciall uſe but the Table.

Sweet *Sicely*, long laſting, pleaſantly taſting, either the ſeed ſowne, or the root parted, and removed, makes increaſe, it is of like uſe with parſly.

Strawberries long laſting, ſet roots at *Michael-tide*, or the Spring, they be red, white, and greene, and ripe, when they be great and ſoft, ſome by *Midſummer* with us. The uſe is, they will coole my Houſewife well, if they be put in Wine or Creame with Sugar.

Time, both ſeeds, ſlips and roots are good, if it ſeed not, it will laſt three or foure yeers or more, it ſmelleth comfortably. It hath much uſe, namely, in all cold meats, it is good for Bees.

Turnep is ſowne. In the ſecond yeare they bear plenty of ſeed; they require the ſame time of ſowing that Carrets doe; they are ſick of the ſame diſeaſe that Cabbages be. The root increaſeth much, it is moſt wholeſome, if it be ſowne in a good and well tempered earth; Soveraigne for eyes and Bees.

I reckon theſe hearbs only, becauſe I teach my Country Houſewife, not skilfull artiſts, and it ſhould be an endleſſe labour, and would make the matter tedious to reckon up *Land-theefe, Stock-July-flowers, Charvell, Valerian, Go-to bed at noone, Piony, Licoras, Tanſie, Garden mints, Germander, Centaurie*, and a thouſand ſuch Phyſick hearbs. Let her firſt grow cunning in this, and then ſhe may enlarge her Garden as her skill and ability increaſeth. And to help her the more, I have ſet downe theſe obſervations.

CHAP.

CHAP. 9.

Generall Rules in Gardening.

IN the South parts Gardening may be more timely, and more ſafely done, then with us in *Yorkeſhire*, becauſe our ayre is not ſo favourable, nor our ground ſo good.

Secondly moſt ſeeds ſhakt, by turning the good earth, are renewed, their mother the earth keeping them in her bowels, till the Sun their Father can reach them with his heat.

3 In ſetting herbs, leave no top more then an handfull above the ground, nor more then a foote under the earth.

4 Twine the roots of thoſe ſlips you ſet, if they will abide it. Gilly flowers are too tender.

5 Set moiſt, and ſowe dry.

6 Set ſlips without ſhanks at any time, except at *Midſummer*, and in froſts.

7 Seeding ſpoyles the moſt roots, as drawing the heart and ſap from the root.

8 Gather for the pot and medicines, herbs tender and greene the ſap being in the top, but in Winter the roote is beſt.

9 All the herbs in the Garden for flowers would once in ſeven years be renewed, or ſoundly watered with puddle water, except Roſemary.

10 In all your Gardens and Orchards, banks and ſeats of Camomile, Penny-royall, Daiſies and Violets, are ſeemly and comfortable.

11 Theſe require whole plots, Artichokes, Cabbages, Turneps, Parſneps, Onyons, Carrets, and (if you will) Saffron and Skerrits.

12 Gather all your ſeeds, dead, ripe, and dry.

13 Lay not dung to the roots of your herbs, as uſually they doe: for dung not melted is too hot even for trees.

14 Thin ſetting and ſowing (ſo the roots ſtand not paſt a foot diſtance) is profitable, for the herbs will like the better. Greater herbs would have more diſtance.

15 Set and ſow herbs in their time of grouth (except at *Midſumme*

summer, for then they are too too tender) but trees in their time of rest.

16 A good housewife may, and will gather store of herbs for the pot, about Lammas, and dry them, and pound them, and in winter they will do good service.

Thus have I lined out a Garden to our Countrey Housewives, and given them rules for common herbs. If any of them (as sometimes they are) be knotty, I refer them to *Chap.* 3. The skill and pains of weeding the Garden with weeding knives of fingers, I refer to themselves & their maids, willing them to take the opportunity after a shower of rain: withall, I advise the Mistresse either to be present her self, or to teach her maids to know herbs from weeds.

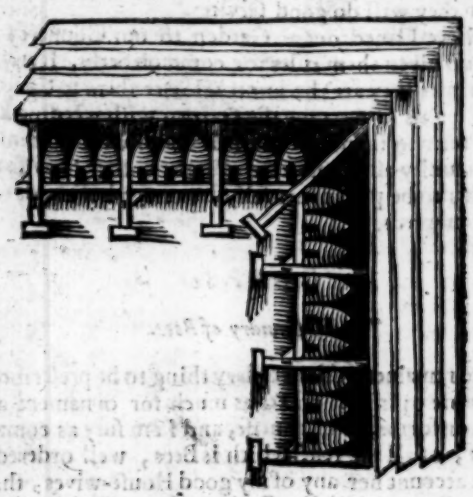
CHAP. 10.

The Husbandry of Bees.

THere remaineth one necessary thing to be prescribed, which in mine opinion makes as much for ornament as either flowers, or forme, or cleanneſſe, and I am sure as commodious as any of, or all the rest: which is Bees, well ordered. And I will not accounte her any of my good House-wives, that wanteth either Bees, or skilfullneſſe about them. And though I know some have written well and truly, and others more plentifully upon this theme: yet somewhat have I learned by experience (being a Bee-master my self) which hitherto I cannot find put into writing, for which I thinke our House-Wives will count themselves beholding unto mee.

The first thing that a Gardner about Bees must be carefull for, is an house, not stakes and stones abroad, *Sub dio*: for stakes rot and reele, Raine and Weather eate your hives, and covers, and cold most of all is hurtfull for your Bees. Therefore you must have an house made along a sure dry wall in your Garden, neere, or in your Orchard: for Bees love flowers and wood with their hearts. Bee houses.

This is the forme; a Frame standing on posts with a floore (if you would have it hold more Hives, two floores boorded) laid on bearers, and bark posts, covered over with boords, flat-wise. Let the floores be without holes or cliftr, lest in casting time



the Bees lye out, and loyter.

And though your hives stand within an handbredth the one of another, yet will Bees know their home.

In this Frame may your Bees stand dry and warme, especially if you make dores like dores of windows, to shroud them in winter, as in an house: provided you leave the hives mouth open. I my selfe have devised such an house, and I find that it strengthens my Bees much, and my hives will last six to one.

Hives. *M. Markham* commends hives of wood; I discommend them not: but straw hives are in use with us, and I think, with all the world, which I commend for nimblenesse, closenesse, warmnesse, and drynesse. Bees love no externall motions of daubing, or such like. Sometimes occasion shall be offered to lift and turn hives, as shall appear hereafter. One light entire hive

hive or ſtraw, in that caſe, is better then one that is daubed, weighty and cumberſome. I wiſh every hive, for a keeping ſwarme, to hold three pecks at leaſt in meaſure. For too little hives procure Bees, in caſting time, either to ly out, and loyter, or elſe to caſt before they be ripe and ſtrong, and ſo make weake ſwarmes and untimely: Whereas if they have roome ſufficient, they rippen timely, and caſting ſeaſonably, are ſtrong, and fit for labour preſently. Neither would the hive be too great, for then they loyter, and waſt meat and time.

Your Bees delight in wood, for feeding, eſpecially for caſting: therefore want not an Orchard. A *Mayes* ſwarme is worth a Mares Foale: if they want wood, they be in danger of flying away. Any time before *Midſummer* is good for caſting, and timely before *July* is not evill. I much like M. *Markhams* opinion for having a ſwarm in combs of a dead or forſaken hive, ſo they be freſh and cleanly. To thinke that a ſwarme of your own, or others, will of it ſelfe come into ſuch and hive, is a meer conceit, *Experto Crede Roberto*. His ſmearing with hony, is to no purpoſe, for the other bees will eat it up. If your ſwarme knit in the top of a tree, as they will, if the wind beat them not to fall down, ler the ſtool or ladder deſcribed in the Orchard do you ſervice. Hiving of Bees.

The leſs your Spelkes are, the leſſe is the waſt of your Hony, and the more eaſily will they draw, when you take your Bees. Four Spelkes a thwart, and one top Spelk are ſufficient. The Bees will faſten their combes to the Hive. A little Hony is good, but if you want, Fennel will ſerve to rub your Hive withall. The Hive being dreſt and ready ſpelkt, rub'd and the hole made for their paſſage (I uſe no hole in the Hive but a piece of wood hoal'd, to ſave the Hive and keep out Mice) ſhake in your Bees, or the moſt of them (for all commonly you cannot get) the remainder will follow. Many uſe ſmoke, nettles, &c. which I utterly diſlike: for Bees love not to be moleſted. Ringing in the time of caſting is a meer fancy, violent handling of them is ſimply evill, becauſe bees of all other creatures love cleanlineſs and peace. Therefore handle them leaſurely and quietly, and their Keeper whom they know may do with them what he will without hurt: Being hived at night, bring them to their ſeat. Set your hives all of one year together. Spelks.

Signes of breeding, if they be ſtrong.

1 They will avoid dead young Bees and Droans.

2 They will ſweat in the morning, till it run from them; allwayes when they be ſtrong.

Signes of caſting.

1 They will fly Droans by reaſon of heat.

2 The young Swarme will once or twice in ſome faire ſeaſon come forth muſtering, as though they would caſt, to prove themſelves, and go in again.

3 The night before they caſt, if you lay your ear to the Hives mouth, you ſhall hear two or three, but eſpecially one above the reſt, cry, Up, up, up, or Tout, tout, tout, like a Trumpet ſounding the alarum to the battel.

Much deſcanting there is of, and about the Maſter Bee, and their degrees, order, and Government: but the truth in this point is rather imagined, then demonſtrated. There are ſome conjectures of it, *viz.* wee ſee In the combs diverſe greater houſes then the reſt, and we commonly hear the night before they caſt, ſometimes one Bee, ſometimes two or more Bees, give a lowd and ſeverall ſound from the reſt, and ſometimes Bees of greater bodies then the common ſort: but what of all this? I leane not on conjectures, but love to ſet down that I know to be true, and leave theſe things to them that love to divine.

Keep none weak, for it is hazard, oftentimes with loſs: Feeding wil not help them; for being weak, they cannot come down to meat, or if they come down, they dye, becauſe Bees weak cannot abide cold. If none of theſe, yet will the other Bees being ſtrong, ſmell the honey, & come and ſpoil & kill them. Some help is in caſting Time, to put two weak ſwarms together, or as Mr. *Markham* wel ſaith, Let them not caſt late, by raiſing them with wood or ſtone but with impes (ſay I.) An impe is, three or four wreaths wrought as the Hive, the ſame compaſs, to raiſe the Hive withall: but by experience in tryall I have found out a better way by Cluſtering, for late or weake ſwarmes, hitherto not found out of any that I know. That is this; After caſting time, if I have any ſtock proud, and hindred from timely caſting, with former Winters poverty, or evill weather in caſting time, with two handles and crooks fitted for the purpoſe, I turne up that ſtock ſo peſt-

Catching.

Cluſtering.

ſtered

ſtered with Bees, and ſet it on the crown, upon which ſo turned with the mouth upward I place another empty hive well dreſt, and ſpelkt, into which without any labour, the Swarme that would not depart, and caſt, will preſently aſcend, becauſe the old Bees have this quality (as all other breeding creatures have) to expell the young, when they have brought them up.

There will the Swarme build as kindly, as if they had of themſelves been caſt. But be ſure you lay betwixt the Hives ſome ſtraight and cleanly ſticke or ſticks, or rather a board with holes, to keep them aſunder: otherwiſe they wil joyn their works together ſo faſt that they cannot be parted. If you ſo keep them aſunder at *Michael-tide*, if you like the weight of your ſwarme (for the goodneſs of ſwarms is tryed by the weight) ſo catched, you may ſet it by for a ſtocke to keep. Take heed in any caſe the combes be not broken, for then the other bees will ſmell the honey, and ſpoyl them. This have I tryed to be very profitable for the ſaving of bees.

The Inſtrumēt hath this form. The great ſtreight piece of wood,

the reſt are irō claſps &nails, the claſps are looſe in the ſtaple; two men with two of theſe faſtned to the Hive, will eaſily turn it up.

They gather not till *July*; for then they be diſcharged of their young, or elſe they are become now ſtrong to labour, & now ſap in flowers is ſtrong and proudby reaſon of time, & force of Sun. And now alſo in the North (and not before) the hearbs of greateſt vigour put their flowers; as Beans, Fennell, Burrage, Rape, &c.

The moſt ſenſible weather for them, is heat and drought, becauſe the neſh bee can neither abide cold or wet: and ſhowres (which they well fore-ſee) do interrupt their labours, unleſs they fall on the night, and ſo they further them.

After caſting *Time*, you ſhall benefit your ſtocks much, if you help them to kill their Droans, which by all probability and judgement, are an idle kind of bees, and waſtfull. Some ſay they breed, and have ſeen young Droans in taking their honey, which I know is true. But I am of opinion that there are alſo bees Droanes

cwhich have loſt their ſtings, and ſo being as it were gelded, become idle and great: there is great uſe of them. *Deus & natura nihil fecit fruſtra. They hate the bees, and cauſe them caſt the sooner: they never come forth, but when they be over heated: they never come home loaden.* After caſting time, and when the bees want meat, *you ſhall ſee the labouring Bees faſten on them, two, three or four at once, as if they were theeves to be led to the Gallowes, and killing them, they caſt them out, and draw them far from home, as hatefull enemies.* Our House-wife, if ſhe be the Keeper of her own bees (as ſhe had need to be) may with her bare hand in the heat of the day ſafely deſtroy them in the hives mouth. Some uſe towards night, in a hot day, to ſet before the mouth of the Hive a thin board, with little holes, in at which the leſſer Bees may enter, but not the Droans; ſo that you may kill them at your pleaſure.

Anndyances.

Snails ſpoil them by night like theeves: they come ſo quietly, and are ſo faſt, that the Bees fear them not: look early and late, eſpecially in a rainy or dewey evening or morning.

Mice are no leſſe hurtfull; and the rather to Hives of ſtraw: and therefore coverings of ſtraw draw them: they will in either at the mouth or ſhear themſelves an hole: the remedy is good Cats, Rats-bane, and watching.

The cleanly Bee hateth the ſmoak as poyſon; therefore let your bees ſtand nearer your garden, then your Brew-houſe or Kitchen.

They ſay Sparrows and Swallowes are enemies to Bees, but I ſee it not.

More Hives periſh by Winters cold, then by all other hurts: for the bee is tender and nice, and onely lives in warm weather, and dys in cold: And therefore let my Houſe-wife be perſwaded, that a warm dry houſe before deſcribed, is the chiefeſt help ſhe can make her bees againſt this, and many more miſchiefes. Many uſe againſt cold in winter, to ſtop up their hive cloſe, & ſome ſet them in houſes perſwading themſelves, that thereby they releive their Bees. Firſt toſſing moving is hurtfull. Secondly, in houſes, going, knocking, & ſhaking is noyſom. Thirdly, too much heat in an houſe is unnaturall for them: but laſtly, and eſpecially, Bees cannot abide to be ſtopt cloſe up. For at every warme ſeaſon of the Sunne they revive, and living eat, and eating muſt needs purge

purge abroad, in her house the cleanly Bee will not purge her self. Judge you what it is for any living creature, not to disburden nature. Being shut up in calme seasons, lay your ear to the Hive, and you shall hear them yearn and yell, as so many hungred prisoners. Therefore impound not your bees, so profitable and free a creature.

Let none stand above three years, else the combs will be black and knotty, your honey will be thin and uncleanly: and if any cast after three years, it is such as have swarmes and old bees kept alltogether, which is great losse. Smoaking with Raggs, Rozen, or brimstone, many use: some use drowning in a tub of clean water, and the water well brew'd, will be good botcher. Draw out your spelks immediately with a pair of pinchers, lest the Wood grow soft and swell, and so will not be drawn; then must you cut your Hive. Taking of Bees.

Let no fire come near your honey, for fire softneth the Waxe and dross, and makes them run with the Honey. Fire softneth, weakeneth, and hindereth Hony for purging. Break your combes small when the dead empty combes are parted from the loaden Combes into a sive, born over a great bowl, or vessel, with two staves, and so let it run two or three dayes. The sooner you tun it up, the better will it purge. Run your swarme Honey by it self, and that shall be your best. The elder your Hives are, the worse is your honey. Straining honey.

Usuall Vessels are of Clay, but after wood be satiated with Honey (for it will leake at first: for honey is marvellously searching, the thick, and therefore vertuous) I use it rather, because it will not break so soon with falls, frosts, or otherwise, and greater vessels of clay will hardly last. Vessels.

When you use your honey, with a spoon take off the skin which it hath put up.

And it is worth the regard, that bees thus used, if you have but forty stocks, shall yeeld you more commodity clearely than forty Acres of Ground.

And thus much may suffice, to make good Housewives love and have good gardens and bees.

Deo laus.

FINIS.

The

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A MOST PROFITABLE New Treatiſe, from approved experience of the Art of propagating Plants.

By SIMON HARVVARD.

CHAP. I.

The Art of propagating Plants.

THere are foure ſorts of planting or propagating, as in laying of ſhoots or little branches, whiles they are yet tender, in ſome pit made at their foot, as ſhall be ſaid hereafter, or upon a little ladder or basket of earth, tied to the bottom of the branch, or in boaring a Willow thorow, and putting the branch of the tree into the hole, as ſhall be fully declared in the Chapter of Grafting.

There are likewiſe ſeaſons to propagate in; but the beſt is in the

the ſpring, and *March*, when the trees are in the Flower, and do begin to grow luſty. The young planted Siens or little graſts, muſt be propogated in the beginning of Winter, a foot deep in the earth, and good manure mingled amongſt the earth, which you ſhall caſt forth of the pit wherein you mean to propagate it, to tumble it in upon it againe. In like manner, your ſuperfluous Siens, or little plants muſt be cut cloſe by the earth, when as they grow about ſome ſmall ſtipe, which we meane to propagate, for they would do nothing but rot: For to propagate, you muſt dig the earth round about the tree, that ſo your roots may be laid in a manner halfe bare. Afterwards draw into length the pit on that ſide where you mean to propagate, and according as you perceive that the ropts will be beſt able to yeeld, and be governed in the ſame pit, to uſe them, and that with all gentleneſſe, and ſtop cloſe your Siens, in ſuch ſort, as that the wreath which is in the place where it is graſted, may be a little lower than the Siens of the new wood, growing out of the earth, even ſo high as it poſſible may be. If the trees that you would propagate be ſomewhat thick, and thereby the harder to ply, and ſomewhat ſtiffe to lay in the pit: then you may wet the ſtock almoſt to the midſt, betwixt the root and the wreathing place, and ſo with gentle handling of it, bow downe into the pit the wood which the graſts have put forth, and that in as round a compaſſe as you can, keeping you from breaking of it: afterward lay over the cut with gummed wax, or with gravell and ſand.

CHAP. 2.

Graſting in the Bark.

GRafting in the bark, is uſed from mid-*Auguſt*, to the beginning of Winter, and alſo when the Weſtern-wind beginneth to blow, being from the 7 of *February*, unto the 11 of *June*. But there muſt care be had, not to graffe in the bark in any rainy ſeaſon, becauſe it would waſh away the matter of joyning the one and the other together, and ſo hinder it.

Grafting in the bud is uſed in the Summer time, from the end of *May*, untill *Auguſt*, as being the time, when the trees are ſtrong and luſty, and full of ſap and leaves. To wit, in a hot Country,

country from the midſt of *June*, unto the midſt of *July*, but in cold Countries to the midſt of *Auguſt*, after ſome ſmall ſhowers of Raine.

If the Summer be ſo exceedingly dry, as that ſome trees doe withold their ſap, you muſt waite the time till it doe returne.

Graft from the full of the Moone, untill the end of the old.

You may graft in a cleft, without having regard to Raine, for the ſap will keep it off.

You may graft from mid-*Auguſt*, to the beginning of *November*: Cowes dung with ſtraw doth mightily preſerve the graft.

It is better to graft in the evening than the morning.

The furniture and tooles of a Grafter, are a basket to lay his grafts in, Clay, Gravel, Sand, or ſtrong Earth, to draw over the plants cloven: Moſſe, Woollen clothes, barks of Willow to joyne to the late things and earth before ſpoken; and to keep them faſt: Oziers to tye againe upon the bark, to keep them firme and faſt: gummed Wax to dreſs and cover the ends and tops of the grafts newly cut, that ſo the raine and cold may not hurt them, neither yet the ſap riſing from below, be conſtrained to return againe unto the ſhootes. A little Saw or hand-Saw, to ſaw off the ſtock of the plants, a little Knife or Pen-knife to graffe, and to cut and ſharpen the grafts, that ſo the bark may not pill nor be broken; which often commeth to paſs when the graft is full of ſap. You ſhall cut the graffe ſo long; as that it may fill the cliffe of the plant, and therewithall it muſt be left thicker on the bark-ſide, that ſo it may fill up both the cliffe and other incifions, as any need is to be made, which muſt be all wayes well ground, well burniſhed without all ruſt. Two wedges, the one broad for thick trees, the other narrow for leſſe and tender trees, both of them of box, or ſome other hard and ſmooth wood, or ſteel, or of very hard iron, that ſo they may need leſſe labour in making them ſharpe.

A little hand-bill to ſet the plants at more liberty, by cutting off ſuperfluous boughs, helved of Ivory, box, or braſill.

Chap. 3.
Grafting in the Cleft.

THe manner of grafting in a cleft, to wit, the ſtock being clov'd, is proper not only to trees, which are as great as a mans legs or arms, but alſo to greater. It is true that being trees cannot eaſily be cloven, in their ſtock: that therefore it is expedient to make inciſion in ſome one of their branches, and not in the main body, as wee ſee to be practiſed in great Apple-trees, and great Peare-trees, and as we have already declared heretofore.

To graft in the left, you muſt make choyce of a graft that is full of ſap and juice, but it muſt not be, but till from after *January* untill *March*: And you muſt not thus graft in any tree that is already budded, becauſe a great part of the juyce and ſap would be already mounted up on high, and riſen to the top, and there diſperſed and ſcattered hither and thither, into every ſprig and twig, and uſe nothing welcome to the graft.

You muſt likewiſe be reſolved not to gather your graft the day you graft in, but ten or twelve dayes before: for otherwiſe, if you graft it new gathered it will not be able eaſily to incorporate it ſelf with the body, and ſtock, where it ſhall be grafted; becauſe that ſome part of it will dry, and by this means will be a hinderance in the ſtock to the riſing up of the ſap, which it ſhould communicate unto the graft, for the making of it to put forth; and whereas this dried part will fall a crumbling, and breaking through his rottennеſſe, it will cauſe to remaine a concavity, or hollow place in the ſtock, which will be an occaſion of a like inconvenience to befall the graft. Moreover, the graft being new and tender, might eaſily be hurt of the hands, which are of neceſſity to be tyed about the Stock, to keep the graft firme and faſt. And you muſt further ſee, that your Plant was not of late removed, but that it have already fully taken root.

7. When you are minded to graft many grafts into one cleft, you muſt ſee that they be cut in the end all alike.

See that the grafts be of one length, or not much differing, and it is enough, that they have three or four eylets without the Wrench: when the Plant is once ſawed, and lopped of all his bran-

branches, if it have many: then you muſt leave but two at the moſt, before you come to the cleaving of it: then put to your little Saw, or your knife, or other edged toole that is very ſharp, cleave it quite thorow the middeſt, in gentle and ſoft ſort: Firſt, tying the ſtock very ſure, that ſo it may not cleave further then is need: and then put to your wedges into the cleft untill ſuch time as you have ſet in your grafts, and in cleaving of it, hould the knife with the one hand, and the tree with the other, to help to keep it from cleaving too far. Afterwards put in your wedge of Box or brazill, or bone at the ſmall end, ſo that you may the better take it out againe, when you have ſet in your grafts.

If the ſtock be cloven, or the barke looſed too much from the wood: then cleave it downe lower, and ſet your grafts in, and look that their Inciſion be fit, and very juſtly anſwerable to the cleft, and that the two ſaps, firſt, of the plant and graft, be right and even ſet one againſt the other, and ſo handſomely fitted, as that there may not be the leaſt appearance of any cut or cleft. For if they doe not thus jump one with another, they will never take one with another, becauſe they cannot work their ſeeming matter, and as it were cartilaginous glue in convenient ſort or manner, to the gluing of their joynts together. You muſt likewiſe beware, not to make your cleft overthwart the pitch, but ſomewhat aſide.

The bark of your plant being thicker then that of your graft, you muſt ſet the graft ſo much the more outwardly in the cleft, that ſo the two ſaps may in any caſe be joyned, and ſet right the one with the other, but the rind of the plant muſt be ſomewhat more out then that of the grafts or cloven ſide.

To the end that you may not faile of this work of imping, you muſt principally take heed, not to over-cleave the ſtocks of your trees. But before you widen the cleft of your wedges, bind and go about the ſtock with two or three turnes, and that with an Ozier, cloſe drawn together, underneath the ſame place, where you would have your cleft to end, that ſo your ſtock cleave not too far, which is a very uſuall cauſe of the miſcarrying of grafts, in as much as hereby the cleft ſtandeth ſo wide and open, as that it cannot be ſhut, and ſo not grow together againe; but in the mean time ſpendeth it ſelfe, and breatheth out all his life in

that

that place, which is the cause that the Stock & the Graft are both spilt. And this falleth out most often in Plum-trees, and branches of trees. You must be carefull to joyn the rinds of your grafts, and plants, that nothing may continue open, to the end that the wind, moisture of the clay or rain running upon the grafted place, do not get in: when the plant cleaveth very streight, there is not any danger nor hardness in sloping downe the Graft. If you leave it somewhat uneven or rough in some places, or
10. that the saps both of the one and of the other may the better grow, and be glued together, when your grafts are once well joyned to your plants, draw out your wedges very softly, least you displace them againe: you may leave therewith in the cleft some small end of a wedge of green wood, cutting it very close with the head of the Stock: Some cast give into the cleft, some sugar, and some gummed Wax.

11. If the Stock of the Plant, whereupon you intend to graft, be not so thick as your graft, you shall graft it after the fashion of a Goats foot: make a cleft in the Stock of the plant, not direct, but by as, and that smooth and even, not rough: then apply and make fast thereto the graft with all his bark on, and answering to the bark of the Plant. This being done, cover the place with the fat earth and mosse of the Woods tyed together with a strong band: stick a pole of Wood by it to keep it steadfast.

CHAP. 4.

Grafting like a Scutcheon.

IN grafting after the manner of a Scutcheon, you shall not vary nor differ much from that of the Flute or pipe, save onely that the Scutcheon-like graft having one eylet, as the other hath, yet the wood of the tree whereupon the Scutcheon-like graft is grafted hath not any knob, or bud, as the Wood whereupon the graft is grafted after the manner of a Pipe.

In Summer when the trees are well replenished with sap, and that their new Siens begin to grow somewhat hard, you
12. shall take a shoot at the end of the chief branches of some noble and reclaimed trees: whereof you would faine have some fruit, and not many of his old store or wood, and from thence raise a good eylet, the taile and all, thereof to make your grafs. But when you choose, take the thickest, and groffest, divide the tail in the

the middſt, before you do any thing elſe, caſting away the leaf (if it be not a pear-plum-tree: for that would have two or three leaves) without removing any more of the ſaid taile: afterward with the point of a ſharp knife, cut off the Bark of the ſaid ſhoot, the patterne of a ſhield, of the length of a nail.

In which there is onely one eylet higher then the midſt together with the reſidue of the taile which you left behind: and for the lifting up of the ſaid graft in Scutcheon, after that you have cut the bark of the ſhoot round about, without cutting of the wood within, you muſt take it gently with your thumbe, and in putting it away you muſt preſſe upon the wood from which you pull it, that ſo you may bring the bud and all away together with the Scutcheon: for if you leave it behind with the wood, then were the Scutcheon nothing worth. You ſhall find out if the Scutcheon be nothing worth, if looking within when it is pulled away from the wood of the ſame ſuit, you find it to have a hole within, but more manifeſtly, if the bud do ſtay behind in the Wood, which ought to have been in the Scutcheon. 13.

Thus your Scutcheon being well raiſed and taken off, hold it a little by the tayle betwixt your lips, without wetting of it, even untill you have cut the bark of the tree where you would graft it, and look that it be cut without any wounding of the wood within, after the manner of a crutch, but ſomewhat longer then the Scutcheon that you have to ſet in it, and in no place cutting the wood within; after you have made inciſion, you muſt open it and make it gape wide on both ſides, but in all manner of gentle handling, & that with a little Sizers of bone, & ſeparating the wood and the bark a little within, even ſo much as your Scutcheon is in length and breadth: you muſt take heed that in doing hereof, you do not hurt the bark. 14.

This done take your Scutcheon by the end, and your taile which you have left remaining, and put into your inciſion made in your tree, lifting up ſoftly your two ſides of the inciſion with your ſaid Sizers of bone, and cauſe the ſaid Scutcheon to joyn, and lye as cloſe as may be, with the Wood of the tree, being cut, as aforeſaid, in waying a little upon the end of your rinde: ſo cut and let the upper part of your Scutcheon lye cloſe unto the upper end of your inciſion, or bark of your ſaid tree: afterward 15.

bind

binde your Scutcheon about with a band of Hempe, as thick as a pen of a quill, more or leſſe, according as your tree is ſmall or great, taking the ſame Hempe in the middeſt, to the end that either part of it may performe a like ſervice; and wreathing and binding of the ſaid Scutcheon into the inciſion of a tree, and it muſt not be tyed too ſtrait, for that would keep it from taking the joyning of the one ſap to the other, being hindred thereby, and neither the Scutcheon, nor yet the Hempe muſt be moiſt or wet: and the more juſtly to bind them together, begin at the backſide of the tree, right over againſt the middeſt of the inciſion, and from thence come forward to joyne them before, above the eylet and taile of the Scutcheon, croſſing your band of Hempe, ſo oft as the two ends meet, and from thence returning back againe, come about and tye it likewiſe underneath the eylets: and thus caſt about your band ſtill backward and forward, untill the whole cleft of the inciſion be covered above and below

17. with the ſaid Hempe, the eylet onely excepted, and his taile, which muſt not be covered at all; his taile will fall away one part after another, and that ſhortly after the ingrafting, if ſo be the Scutcheon will take. Leave your trees and Scutcheons thus bound, for the ſpace of one month, and the thicker, a great deale longer time. Afterward look them over, and if you perceive them to grow together, untye them, or at leaſtwiſe cut the Hempe behind them, and leave them uncovered. Cut alſo your branch two or three fingers above that, ſo the impe may proſper the better: and thus let them remaine till after winter, about the month of *March*, and *April*.

18. If you perceive that your budde of your Scutcheon do ſwell and come forward: then cut off the tree three fingers or thereabouts, above the Scutcheon: for if it be cut off too near the Scutcheon, at ſuch time at it putteth forth his firſt bloſſome, it would be a meanes greatly to hinder the flowing of it, and cauſe alſo that it ſhould not thrive and proſper ſo well after that one yeere is paſt, and that the ſhoote beginneth to be ſtrong: beginning to put forth the ſecond bud and bloſſome, you muſt go forward to cut off in byas-wiſe the three fingers in the top of the tree, which you left there, when you cut it in the year going before, as hath been ſaid.

When

When your ſhoote ſhall have put forth a great deal of length, you muſt ſticke downe there, even hard joyned thereunto, little ſtakes, tying them together very gently and eaſily; and theſe ſhall ſtay your ſhoots and prop them up, letting the wind from doing any harm unto them. Thus you may graft white Roſes in red, and red in white. Thus you may graft two or three Scutcheons: provided that they be all of one ſide: for they will not be ſet equally together in height, becauſe then they would be all ſtarvelings, neither would they be directly one over another; for the lower would ſtay the riſing up of the ſap of the tree, and ſo thoſe above ſhould conſume in penurie, and undergo the aforeſaid inconvenience. You muſt note, that the Scutcheon which is gathered from the Sien of a tree whoſe fruit is ſowre, muſt be cut in ſquare forme, and not in the plaine faſhion of a Scutcheon. It is ordinary to graffe the ſweet Quince-tree, baſtard peach-tree, Apricock-tree, Iujube tree, ſowre Cherry-tree, ſweet Cherry-tree, and Cheſtnut-tree, after this faſhion, howbeit they may be grafted in the cleft more eaſily, and more profitably; although divers be of a contrary opinion, as thus: Take the grafts of ſweet Quince-tree, and baſtard peach-tree, of the faireſt wood, and beſt fed that you can find, growing upon the wood of two years old, becauſe the wood is not ſo firme and ſolid as the others; and you ſhall graft them upon ſmall plum-tree ſtocks, being of the thickneſſe of ones thumbe; theſe you ſhall cut after the manner of a Goats foote: you ſhall not go about to make the cleft of any more ſides then one, being about a foot high from the ground; you muſt open it with your ſmall wedge: and being thus grafted, it will ſeeme to you that it is open but of one ſide; afterward you ſhall wrap it up with a little Moſſe, putting thereto ſome gummed Wax, or Claie, and bind it up with Oziers to keep it ſurer, becauſe the ſtock is not ſtrong enough it ſelf to hold it, and you ſhall furniſh it every manner of way as others are dealt withall; this is moſt profitable.

19.

21

20.

The time of Grafting.

All Months are good to graft in, (the Month of *October* and *November* only excepted) But commonly, graft at that time of

the winter, when the ſap beginneth to riſe.

In a cold Countrie graft later, and in a warme Countrey earlier.

The beſt time generall is from the firſt of *February*, untill the firſt of *May*.

The grafts muſt alwaies be gathered, in the old of the Moone.

For grafts chooſe ſhoots of a yeare old, or at the furthermoſt two years old.

If you muſt carry grafts far, prick them into a Turnep newly gathered, or lay earth about the ends.

If you ſet ſtones of Plummes, Almonds, Nuts, or Peaches: Firſt, let them lie a little in the Sun, and then ſteep them in Milk or Water, three or foure dayes, before you put them into the earth.

Drie the Kernels of Pippins, and ſow them in the end of *November*.

The ſtone of a Plum-tree muſt be ſet a foot deep in *November*, or *February*.

The Date-ſtone muſt be ſet the great end downwards, two cubits deep in the earth, in a place enriched with dung.

The Peach-ſtone would be ſet preſently after the Fruit is eaten, ſome quantity of the fleſh of the Peach remaining about the ſtone.

If you would have it to be excellent, graft it afterward upon an Almond tree.

The little Siens of Cherry-trees, grown thick with haire, rots, and thoſe alſo which do grow up from the roots of the great Cherry-trees, being removed, do grow better and ſooner then they which come of ſtones: but they muſt be removed and planted while they are but two or three yeers old, the branches muſt be lopped.

The

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Inoculation in the bark,
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To prick ſticks to bear the firſt year,
To have Cherries or Plums without ſtones,
To make Quinces great,
To ſet ſtones of Plummes, Dates, Nuts, and Peaches,
To make fruit ſmell well,
To plant Cherry-trees.

THE

HUSBAND MANS FRVITFVLL ORCHARD.

For the true ordering of all ſorts of Fruits in their due ſeaſons: and how double increaſe commeth by care in gathering year after year: as alſo the beſt way of carriage by land or by water, with their preſervation for longeſt continuance.

OF all ſtone Fruit, Cherries are the firſt to be gathered: of which though we reckon foure ſorts; *Engliſh*, *Flemiſh*, *Gaſcoigne*, and Black, yet are they reduced to two, the early, and the ordinary; the early are thoſe whoſe grafts came firſt from *France* and *Flanders*, and are now ripe with us in *May*: the ordinary is our own naturall Cherry, and is not ripe before *June*: they muſt be carefully kept from Birds, either with nets, noiſe, or other induſtry.

They

Gathering of Cherries.

They are not all ripe at once, nor may be gathered at once, therefore with a light Ladder, made to ſtand of it ſelf without hurting the boughs, mount to the tree, and with a gathering hook, gather thoſe which be full ripe, and put them into your Cherry-pot, or Kybzey hanging by your ſide, or upon any bough you pleaſe, and be ſure to break no ſtalk, but that the cherry hangs by; and pull them gently, lay them downe tenderly, and handle them as little as you can.

To carry Cherries.

For the conveyance or portage of Cherries, they are beſt to be carried in broad Batkets like ſives, with ſmooth yeelding bottomes, only two broad laths going along the bottome: and if you do tranſport them by ſhip, or boat, let not the ſives be filled to the top, leſt ſetting one upon another, you bruiſe and hurt the Cherries: if you carry by horſeback, then panniers well lined with Fearne, and packt full and cloſe is the beſt and ſafeſt way.

Other ſtone fruit.

Now for the gathering of all other ſtone fruit, as Nectarines, Apricocks, Peaches, Peare-plummes, Damſons, Bullas, and ſuch like, although in their ſeverall kinds, they ſeem not to be ripe at once on one tree: yet when any is ready to drop from the tree, though the other ſeem hard, yet they may alſo be gathered, for they have received the full ſubſtance the tree can give them; and therefore the day being faire, and the dew drawn away, ſet up your Ladder, and as you gathered your Cherries, ſo gather them: onely in the bottomes of your large ſives, where you part them, you ſhall lay Nettles, and likewiſe in the top, for that will ripen thoſe that are moſt unready.

Gathering of Peares.

In gathering of Peares are three things obſerved, to gather for expence, for tranſportation, or to ſell to the Apothecary. If for expence, and your own uſe, then gather them as ſoon as they change, and are as it were half ripe, and no more but thoſe which are changed, letting the reſt hang till they change alſo: for thus they will ripen kindly, and not rot ſo ſoon, as if they were full ripe at the gathering. But if your Peares be to be tranſported far either by Land or Water, then pull one from the Tree, and cut it in the middeſt, and if you find it hollow about the coare, and the kernell a large ſpace to lye in, although no Peare

be

ready to drop from the Tree, yet then they may be gathered, and then laying them on a heap one upon another, as of neceſſity they muſt be for tranſportation, they will ripen of themſelves, and eat kindly: but gathered before, they will wither, ſhrinke and eate rough, loſing not only their taſt, but beauty.

Now for the manner of gathering; albeit ſome climb into the trees by the boughes, and ſome by Ladder, yet both is amiſs; the beſt way is with the Ladder before ſpoken of, which ſtandeth of it ſelf, with a basket & a line, which being full, you muſt gently let down, and keeping the ſtring ſtill in your hand, being emptied, draw it up againe, and ſo finiſh your labour, without troubling your ſelf, or hurting the Tree. Gathering of Apples.

Now touching the gathering of Apples, it is to be done according to the ripening of the fruit; your Summer Apples firſt, and the Winter after.

For Summer fruit, when it is ripe, ſome will drop from the Tree, and Birds will be picking at them: But if you cut out one of the greeneſt, and find it as was ſhew'd you before of the peare: then you may gather them, and in the houſe they will come to their ripeneſs and perfection. For your Winter fruit, you ſhall know the ripeneſſe by the obſervation before ſhewed; but it muſt be gathered in a faire, Sunnie, and dry day, in the waine of the Moone, and no Wind in the Eaſt, alſo after the dew is gone away; for the leaſt wet or moyſture will make them ſubject to rot and mildew; alſo you muſt have an apron to gather in, and to empty into the great baskets, and a hooke to draw the boughes unto you, which you cannot reach with your hands at eaſe: the apron is to be an Ell every way, loopt up to your girdle, ſo as it may ſerve for either hand without any trouble: and when it is full, unlooſe one of your loopes, and empty it gently into the great basket, for in throwing them downe roughly, their own ſtalkes may prick them; and thoſe which are prickt, will ever rot. Againe, you muſt gather your fruit clean without leaves or brunts, becauſe the one hurts the tree, for every brunt would be a ſtalk for fruit to grow upon: the other hurts the fruit by bruiſing, and pricking it as it is laid together; and there is nothing ſooner rotteth fruit,

fruit, then the green and withered leaves lying among them; neither muſt you gather them without any ſtalke at all: for ſuch fruit will begin to rot where the ſtalk ſtood.

To ſort the fallings.

For ſuch fruit as falleth from the tree, and are not gathered, they muſt not be layd with the gathered fruit: and of fallings there are two ſorts; one that falls through ripeneſs, and they are beſt, and may be kept to bake or roaſt: the other windfals, and before they are ripe, and they muſt be ſpent as they are gathered, or elſe they will wither and come to nothing: and therefore it is not good by any meanes to beat downe fruit with Poales, or to carry them in carts looſe and jogging, or in ſacks where they may be bruiſed.

Carriage of fruit.

When your fruit is gathered, you ſhall lay them in deep Baskets of Wicker, which ſhall containe four or ſix buſhels, and ſo between two men, carry them to your Apple Loft; and in ſhooting or laying them downe, be very carefull that it be done with all gentleneſſe, and leaſure, laying every ſort of fruit ſeverally by it ſelf: but if there be want of roome, having ſo many ſorts that you cannot lay them ſeverally, then ſome ſuch fruit as is neareſt in taſt and colour, and of Winter fruit, ſuch as will taſt alike, may, if need require, be laid together, and in time you may ſeparate them, as ſhall be ſhewed hereafter. But if your fruit be gathered farr from your Apple-Loft, then muſt the bottomes of your Baskets be lined with green Ferne, and draw the ſtubborne ends of the ſame through the Basket, that none but the ſoft leaf may touch the fruit, and likewiſe cover the tops of the Baskets with Fearne alſo, and draw ſmall cord over it, that the Fern may not fall away, nor the fruit ſcatter out, or jogge up and downe: and thus you may carry fruit by Land or by Water, by Boat, or Cart, as farre as you pleaſe: and the Ferne doth not onely keep them from bruiſing, but alſo ripens them, eſpecially Peares. When your fruit is brought to your Apple Loft or ſtore-houſe, if you find them not ripened enough, then lay them in thicker heaps upon Fearne, and cover them with Ferne alſo: and when they are neer ripe, then uncover them, and make the heaps thinner, ſo as the ayre may paſſe through them: and if you will not haſten the ripening of them, then lay them on the boards without

out any Fearne at all. Now for Winter, or long lasting Peares, they may be packt either in Ferne or Straw, and carried whither you please; and being come to the journeys end must be laid upon sweet straw; but beware the roome be not too warme, nor windy, and too coole, for both are hurtfull: but in a temperate place, where they may have ayre, but not too much.

Of wardens. Wardens are to be gathered, carried, packt, and laid as Winter Peares are.

Of Medlers. Medlers are to be gathered about *Michaelmas*, after a froft hath toucht them; at which time they are in their full growth, and will then be dropping from the tree, but never ripe upon the tree. When they are gathered, they must be laid in a basket, sive, barrell, or any such cask, and wrapt about with woollen cloths, under, over, and on all sides, and also some weight laid upon them, with a board between: for except they be brought into a heat, they will never ripen kindly, or taft well.

Now when they have laine till you thinke some of them be ripe, the ripeft, still as they ripen, must be taken from the reft: therefore powre them out into another sive or basket leasurely, that so you may well find them that be ripeft, letting the hard ones fall into the other basket, and those which be ripe laid aside: the other that be halfe ripe sever also into a third sive or basket: for if the ripe and halfe ripe be kept together; the one will be mouldy, before the other be ripe: And thus doe till all be throughly ripe.

Of Quinces. Quinces should not be laid with other fruit; for the sent is offensive both to other fruit, and to those that keep the fruit or come amongst them: therefore lay them by themselves upon sweet straw, where they may have ayre enough: they must be packt like Medlers, and gathered with Medlers.

To pack Apples. Apples must be packt in Wheat or Rye-straw, and in maunds or baskets lyned with the same, and being gently handled, will ripen with such packing and lying together. If severall sorts of apples be packt in one maund or basket, then betweene every sort lay sweet straw of a pretty thicknesse.

Emprying and laying Apples. Apples must must not be powred out, but with care and leasure: first, the straw pickt cleane from them, and then gently

make out every severall sort, and place them by themselves: but if for want of room you mixe the sorts together, then lay those together that are of equal lasting: but if they have all one tast, then they need no separation. Apples that are not of like colours should not be laid together, and if any such be mingled, let it be amended, and those which are first ripe, let them be first spent, and to that end, lay those apples together, that are of one time of ripening: and thus you must use Pippins also, yet will they indure bruises better then any other fruit, and whilst they are green will heale one another.

Difference in fruit.

Pippins though they grow of one tree, and in one ground, yet some will last better then other some, and some will be bigger then others of the same kind, according as they have more or lesse of the Sun, or more or lesse of the droppings of the trees or upper branches: therefore let every one make most of that fruit which is fairest, and longest lasting. Againe, the largenesse and goodnesse of fruit consists in the age of the tree: for as the tree increaseth, so the fruit increaseth in bignesse, beauty, tast, and firmnesse: and otherwise as it decreaseth.

Transporting fruit by water.

If you be to transport your fruit far by water, then provide some dry hogges-heads or barrells: and packe in your apples, one by one, with your hand, that no empty place may be left, to occasion fogging; and you must line your vessel at both ends with fine sweet straw; but not the sides, to avoid heat: and you must bore a dozen holes at either end, to receive ayre so much the better; and by no meanes let them take wet. Some use, that transport beyond seas, to shut the fruit under hatches upon straw: but it is not so good, if caske may be gotten.

When not to transport fruit.

It is not good to transport fruit in *March*, when the wind blowes bitterly, nor in frosty weather, neither in the extreame heat of Summer.

To convey small store of fruit.

If the quantity be small you would carry, then you may carry them in Dossers or Panniers, provided they may be ever filled close; and that Cherries and Peares be lined with green Fearne, and Apples with sweet straw; and that, but at the bottomes and tops, not on the sides.

Roomes for fruit.

Winter fruit must lye neither too hot, nor too cold, too close nor too open: for all are offensive. A low roome or Cellar that

that is sweet, and either boarded or paved, and not too close, is good, from *Christmas* till *March*; and roomes that are seeled over head, and from the ground, are good from *March* till *May*, then the Cellar againe, from *May* till *Michaelmas*. The apple lofte would be seeled or boarded, which if it want, take the longest Rye-straw, and raise it against the walls, to make a fence as high as the fruit lyeth; and let it be no thicker then to keep the fruit from the wall, which being moyst, may doe hurt, or if not moist then the dust is offensive.

There are some fruit which will last but untill *Allhallontide*: they must be laid by themselves, then those which will last till *Christmas*, by themselves; then those which will last till it be *Candlemas*, by themselves; those that will last till *Shrovetide*, by themselves, and Pippins, Apple Johns, Peare-maines, and Winter Russettings, which will last all the yeere by themselves. Sorting of Fruit.

Now if you spy any rotten fruit in your heapes, pick them out, and with a Tray for the purpose, see you turne the heapes over, and leave not a tainted Apple in them, dividing the hardest by themselves, and the broken skinned by themselves to be first spent, and the rotten ones to be cast away; and ever as you turne them, and pick them, under-lay them with fresh straw: thus shall you keep them for your use, which otherwise would rot suddenly.

Pippins, Iohn-Apples, Peare-maines, and such like long lasting fruit, need not to be turned till the week before *Christmas*, unlesse they be mixt with other of riper kind, or that the sallings be also with them, or much of the first straw left amongst them: the next time of turning is at *Shrove-tide*, and after that once a month till *Whitson-tide*; and after that, once a fortnight; and ever in the turning, lay your heapes lower and lower, and your straw very thinne: provided you doe none of this labour in any great frost, except it be in a close Celler. At every thaw, all fruit is moyst, and then they must not be touched: neither in rainy weather, for then they will be danke also; and therefore at such seasons it is good to set open your windowes and doores, that the ayre may have free passage to dry them, as at nine of the clock in the forenoon in Winter; and at sixe in the fore-noone, Time of turning fruit.

and at night as much in Summer; onely in *March*, open not your windowes at all.

All lasting fruit, after the midst of *May*, begin to wither, because then they wax dry, and the moisture gone, which made them look plumpe, they must needes wither, and be small; and nature decaying, they must needs rot. And thus much touching the ordering of fruits.

FINIS.